amateur radio

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

VOL. 46, No. 3 MARCH 1978

CONTENTS

COVER PHOTO

Gil Miles VK2KI, first licensed in 1922 and still going strong, displays his home brew valve type slow scan TV monitor, underneath is a solid state slow scan signal generator.

Photo courtesy Electronics Australia.

HAM RADIO SUPPLIERS

323 ELIZABETH STREET, MELBOURNE, VIC., 3000

Phones: 67-7329, 67-4286

Our Disposals Store at 104 HIGHETT ST., RICHMOND (Phone 42-8136) is open Mondays to Fridays, 9.00 a.m. to 5.00 p.m., and on Saturdays to midday.

FM LEAD ANTENNALESS MICROPHONE

MODEL FIRST-101 (Uni-directional Condenser Microphone)

A new professional quality uni-directional condenser microphone featuring superb sensitivity and excellent frequency characteristics. Very easy handling because of cordless microphone. Operates on just one UM-3 battery for 100 hours of continuous use. Very economical. The transmitting frequency freely adjustable within FM radio band. If using without lead antenna, sound is caught within about 50 metres, when using with reinforced antenna to jack at the bottom, range is extended up to about 100 metres.

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Postage $1.40

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$338

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Intermediate Frequency: 455KC
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Transistors: 8, diode 4
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Sensitivity: Less than 20 uV at 20 N/S
Selectivity: More than 25 dB at ± 10 kHz detuning
A.G.C.: More than 45 dB at 1,000 kHz
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IM Rejection: More than 50 dB at 1,400 kHz
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$32.90 — Free Post

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SPECIFICATIONS:
Freq. Range: AM530-1600 kHz, AIR (VHF) 108-174 MHz. **Intermed. Freq.:** AM 465 kHz, FM 10.7 MHz. **Output:** 450 mW max. **Speaker:** 2½" permanent—magnetic dynamic type, 8 ohm. **Power Source:** DC — 6V (4 x UM3 Penlite) or equivalent. **Semiconductor:** 10 trans., 7 diode. **Dimensions:** 8½" (W) x 4½" (H) x 1-7/8" (D)

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MODEL AS100 D/P MULTIMETER

This meter features double zener diode meter protection and 3½" full view easy to read 2 colour scale. It is fitted with polarity reversing switch and housed in a strong moulded case with carrying handle.
SPECIFICATION: 1000,000 ohm/volt DC. 10,0000 ohm/volt AC. **DC Volts:** 0.3, 3, 12, 60, 120, 300, 600, 1,200. **AC Volts:** 6, 30, 120, 300, 600, 1,200. **DC Amps:** 12 uA, 6 mA, 60 mA, 300 mA, 12A. **Ohms:** 2k, 200k, 2m, 20m, 200m ohm. **Centre Scale:** 20 ohm, 2,000 ohm, 20,000 ohm, 200,000 ohm, 20m ohm. **Decibel** —20 to +57 db. **Dimensions:** 7-3/5 x 5-2/5 x 2-3/5 ins. Carrying case for model I — $7.90.
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amateur radio

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QSP — WELCOME ABOARD

"Think of it fellows! Here, we have been considering it necessary for us to carry carefully planned propaganda into the broadcast camp in order to interest some of the broadcast listeners in our game, and instead we find that there are already dozen upon dozens of them sold on brass-pounding and only waiting for someone to give them the key so that they can come in with us. They have called us and now it is up to us to deliver."

So wrote the editor in the January 1926 issue of QST. You know, in some ways little has changed in our hobby — sure, the technology today is considerably more advanced than in 1926 . . . but then again that same issue of QST had articles on 5 metre equipment and the Voss picture transmitter which were surely "state of the art" for that decade.

The broadcast listeners mentioned in the Editorial were all apparently very enthusiastic about their introduction to wireless — perhaps not unlike many of the CBers today. Yesterday, many of us had our first taste of two-way radio communication while with the Army, Navy or Air Force or even the local Country Fire Authority. Some, of course, through everyday employment. Today, CB is by far the likeliest way that most newcomers to our ranks will have their appetite whetted.

Ex-CBers are entering our ranks with every exam.; many at the novice level — some at the limited and full licence level.

The following statistics of the number of Australian licensees as of 30th September, 1977, are from official P. and T. Department records: Full lincensees 5,043; Limited licensees 2,421; Novice licensees 687.

Further, it is believed that since these statistics were published, a further 308 Novice licences have been issued in New South Wales alone.

We should all realize that the interest in our hobby is very much on the increase. The statistics only indicate how many licences have been issued — it is known that those studying for their licence (Full, Limited or Novice) is many times the existing number of Novice licensees.

To all newcomers and especially the Novices, the Institute says "welcome aboard" — we hope that you will enjoy the hobby as much as many of our "old-timers" have over the years. Hopefully, you will be able to expand your horizons even further by upgrading to the full AOCP level.

We invite all newcomers to participate in Institute activities, especially the Federal Convention, the annual policy-making meeting of the Federal Council, which is to be held in Melbourne during April. It is at this Convention that the course of the Institute for the following year is set. All decisions are made by the Federal Council which consists of Councillors from each Division. These Councillors require input from members within their division. You are earnestly requested to make yourself known to your Federal Councillor — his name is shown in the Divisional Directory, and inform him of your ideas, complaints, suggestions, etc., for amateur radio for the ensuing year.

The door is certainly unlocked and open. It is up to you to enter.

P. WOLFENDEN VK3ZPA/NIB,
Executive Vice-President. ■

WIRELESS INSTITUTE OF AUSTRALIA

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Divisional Information (all broadcasts are on Sundays unless otherwise stated):

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President — Mr. E. W. Howell VK1TH
Secretary — Mr. D. J. Farquharson VK1ZDF
Broadcasts— 3570 kHz & 146.5 MHz: 10.00Z.

NSW:
President — Mr. T. I. Mills VK2ZTM
Secretary — Mr. I. A. Mackenzie VK2ZIM
Broadcasts— 1825, 3595, 7146 kHz, 28.5, 52.1, 52.525, 144.1, Ch. 8 and other relay stations: 01.00Z. (Also Sunday evenings 09.30Z and Hunter Branch, Mondays 09.30Z on 3570 kHz and ch. 3 and 6).

VIC.:
President — Mr. S. T. Clark VK3ASC
Secretary — Mr. J. A. Adcock VK3ACA
Broadcasts— 1825, 3600, 7135 kHz — also on 6m, 2m SSB and 2m Ch. 2 repeater: 00.30Z (Also on Radio 3HA).

QLD.:
President — Mr. D. T. Laurie VK4DT
Secretary — Mr. P. Brown VK4PJ.
Broadcasts— 1825, 3580, 7146, 14342 kHz: 09.00 EST.

SA:
President — Mr. C. J. Hurst VK5HI
Secretary — Mr. C. M. Pearson VK5PE
Broadcasts— 1820, 3550, 7125, 14175 kHz; 28.5 and 53.1 MHz, 2m (Ch. 8): 09.00 S.A.T.

WA:
President — Mr. R. Greenaway VK6DA
Secretary — Mr. N. R. Penfold VK6NE
Broadcasts— 3600, 7080, 14100, 14175 kHz, 52.656 and 2m (Ch. 2): 01.30Z.

TAS.:
President — Mr. R. K. Emmett VK7KK
Secretary — Mr. H. E. Hewens VK7HE
Broadcasts— 3570, 7130 kHz: 09.30 EST.

NT:
President — Mr. Doug Haig VK8JD.
Secretary — Mr. Henry Anderson VK8HA.
Broadcasts— Relay of VK5WI on 3.55 MHz and on 146.5 MHz at 2330Z. Slow morse transmission by VK8HA on 3.555 MHz at 1000Z almost every day.

Postal information:
VK1 — P.O. Box 46, Canberra, 2600.
VK2 — 14 Atchison St., Crows Nest, 2065 (Ph. (02) 43 5795 Tues & Thurs (10.00-14.00h).
VK3 — 412 Brunswick St., Fitzroy, 3065 (Ph. (03) 41 3535 Sat 10.00-12.00h).
VK4 — G.P.O. Box 638, Brisbane, 4001.
VK5 — G.P.O. Box 1234, Adelaide, 5001 — HQ at West Thebarton Rd., Thebarton (Ph. (08) 254 7442).
VK6 — G.P.O. Box N1002, Perth, 6001.
VK7 — P.O. Box 1010, Launceston, 7250.
VK8 — (incl. with VK5), Darwin AR Club, P.O. Box 1418, Darwin, 5794.

Slow morse transmissions — most week-day evenings about 09.30Z onwards around 3550 kHz.

2M SSB PORTABLE

The **IC202** is the ideal 2m exciter for those long-haul DX contacts or to work **OSCAR**. 3 watts ssb and cw. VXO control, quality manufacture and comes complete with English manual, carry-strap, mic and VICOM 90 day warranty. Price **$219.**

HAL Communications Corp.

The new **HAL KSR3000** send/receive RTTY terminal including keyboard and video display, features scrolling, continuous, word or line transmission and firmware for word wrap-around and blankfill. Handles Baudot and ASC11 (8-level) with a screen size up to 1152 chs. List price **$1499.** Write (including SAE) for complete specifications.

PIRATES AND BOOTLEGGERS

Bootleggers are those importers who buy ham gear from the back streets of Tokyo and Hong Kong for resale in Australia. This equipment is usually a domestic model, lacks factory support and often has a Japanese or photo-copied English manual. In some cases the gear is production line rejects. When making a purchase ask whether your new pride and joy has been supplied through an authorised distributor.

Pirates buy their transceivers from unscrupulous dealers with no interest in the effect spectrum anarchy is having on the amateur service. VICOM policy is not to supply equipment to pirates.

$849 uniden

The fabulous Uniden 2020 phase-locked-loop transceiver offers separate usb/lsb/cw 8-pole crystal filters as standard and 6146B's in the final with screen voltage stabilisation for minimum distortion products. Features plug-in pcb's and even the front panel can be swung out for easy servicing. A full spares catalogue is available together with change-over pcb's. Compare the Uniden 2020 with other HF transceivers and you'll be quickly convinced that it offers the best value!

YAESU

FT101E HF transceiver 160m thru 10m	**$849**
FL2100B HF linear amplifier	**$578**
FT7 communications receiver	**$349**
FT301D solid state HF transceiver	**$1149**

MORE OF THE TEAM!

VICOM

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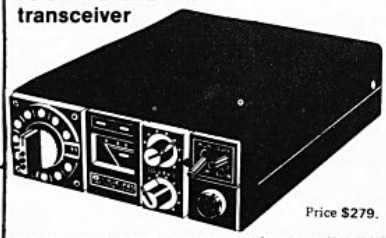
FD30M 32MHz cut-off, 1KWpep max	$35
FD30LS 32MHz cut-off, 200w max	$20

MORSE KEYS

HK702 deluxe, marble base	$35
HK708 economy model	$19
HK706 operator's model	$20
MK701 manipulator	$38
ED103W electronic keyer	$159

ICOM IC-22S FM transceiver



Price $279.

WHY IS THE IC22S AUSTRALIA'S TOP-SELLING VHF FM RIG?

- **The 22S is reknown for quality and dependability.**
- **It's crystal clear — no expensive crystals required.**
- **Great features such as reverse repeater operation, high level of spurious attenuation, high selectivity and sensitivity.**

See the review in February 1978 "Electronics Australia".

KENWOOD

KENWOOD TS-520S transceiver

TS820S HF digital transceiver	$1105
TS520S HF 160-10m transceiver	$705
VFO820 vfo for TS820S	$115
TV502 2m transverter	
TV502 2m transverter	$260
TV506 6m transverter	$229
TR7400 2m fm digital transceiver	$450
MC50 desk mic, dynamic	$54

Direction: Russell J. Kelly
Peter D. Williams

Prices and specifications subject to change without notice.

VICOM

THE WORLD LEADERS IN VHF NOW BRING YOU THE ULTIMATE

IC701

NEW!

The fabulous state of the art **ICOM IC701** solid state transceiver. The initial huge demand for this rig from U.S.A., Europe and Australia may result in delays in availability. Order your new **IC701** now!

- All Solid State, even the finals.
- 100W Continuous Duty
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- USB, LSB CW, CW-N(Narrow), RTTY.
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- Full line of accessories to come.

ICOM

ICOM'S DIGITAL ALL SOLID STATE HF TRANSCEIVER

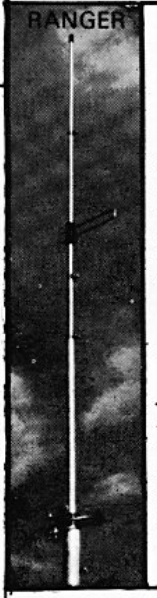
IC701 TRANSCEIVER $1160
IC701PS optional AC supply $239

ICOM IC-245 2m transceiver

• LSI synthesizer PLL • 4-digit LED readout • Transmit & receive frequencies are independently programable on any separation • Receiver front-end is a balance of low noise, high-gain MOS FET & 5 section filter • TX output: 10 W PEP • Frequency step size: 5 KHz for FM, 100 Hz (with adapter) or 5 KHz for SSB.

HELLO 6M DX

Sunspot cycle #21 in now on the up-and-up! Share in some of the fun on 6 metres DX with the **ICOM IC502** ssb portable transceiver. The IC502 covers 52-53MHz with VFO control, RIT, effective noiser blanker, provision for external power and antenna and comes complete with carrystrap, mic and English handbook. Backed by **VICOM** 90 day warranty. Price **$219**



Antennas!

You know you can count on

hy-gain

TH6DXX 6el 10/15/20m Thunderbird	$320
TH3MK3 3el tribander 8dB gain	$249
TH3Jr 3el tribander, 12' boom	$199

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V5Jr 6.7m high, 80 thru 10m, no guys	$109
V4Jr 4.25m high, 40 thru 10m, no guys	$89

TRAP DIPOLES

MidyVN 80 thru 10m	$67
AL48DXN 40 & 80 metres, 2Kw	$54

TWO METRES

ringo $49

The **RINGO RANGER ARX-2** is a 2M gain omni-directional antenna with three half-waves in phase and a one-eight wave matching stub. The Ringo Ranger gives an extremely low angle of radiation for better signal coverage. It is tunable over a broad frequency range and perfectly matched to 52 ohm coax. Price **$49.**

4dB gain with reference to half-wave dipole.
6dB gain with reference to quarter-wave whip.

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TLX 30566
Adelaide: 43.7981 Brisbane: 38 4480
Canberra: 82.3581 Gold Coast: 32.2644
Perth: 446.3232

WIANEWS

The examinations and licensing areas are still causing concern as nothing further has been heard from the P. and T. Department. These questions took up much time at the January meeting of the Executive.

The Federal Education Co-ordinator put forward a suggestion that the Department should be aproached to approve an amateur Examinations Committee jointly with the WIA, as it was strongly believed help was needed by the Departmental examinations section. Through the good offices of VK3YJK a professional-type of Novice examination questions bank is now in being. In order that this bank can become really effective, feedback is required in relation to analysing the answers so that the statistical results can provide material for educational measurement and evaluation.

In subsequent discussions with the Controller in the RFM Branch of the Department a promise was extracted that the idea of a joint committee would receive consideration. A further discussion was held on the question of the last October Novice exam and something may eventuate from this. If an amateur education Committee were in force this would naturally have been an excellent item for the Agenda.

The licensing delays are also a matter of much concern. As members already know, this Institute has suggested, for some years now, that the systems and procedures in use by the Department should be modernised and streamlined. Less staff would then be required, in theory, to operate the licensing of amateurs in particular. The vast increase in licensing operators in other services has not helped the overall situation.

EDP

Discussions with a commercial organisation to take over our EDP and mailing service broke down, as they were unwilling to adapt any of their standard programmes for our subscription and accounting requirements. We will therefore remain with Monash for our EDP but hopefully obtaining more efficient and more economical results on transfer to a more modern computer. Our programmes are currently being converted.

RECRUITING

The response to advertisements in CB magazines has been most useful. It is revealing to read of the reasons why people are switching from CB to amateur radio. It is certainly better to have many more amateurs than a multitude of pirates.

FEDERAL CONVENTION

This is your last chance to send to your Division any Agenda items you propose for discussion at the 1978 Federal Convention. ■

AR AWARDS

The Publications Committee has pleasure in advising the names of the recipients of awards for the year 1977.

HIGGINBOTHAM AWARD

Mr. W. E. J. (Bill) Roper VK3ARZ, lately editor of AR.

TECHNICAL AWARD

Mr. Peter Renton VK4PV for his article on "Filament Switching from a Distance", which appeared in the November issue.

ASJA AWARD

Mr. Max Dawkins VK3TR for his "Some Field Station" article in the March issue. ■

ANODIZING ALUMINIUM

Bruce R. Kendall VK3ZDM
10 Carter Crescent, Werribee 3030

Like to home-brew your own gear?
And give it that professional look?
If yes is the answer — then anodizing is for you!

What is anodizing and how can it help me?

When a piece of aluminium is said to be anodized, the surface is completely covered with a crystal structured coating which prevents further oxidization (corrosion) of the surface. Yes, further oxidization, because anodizing is virtually oxidizing of the aluminium surface at a predictable rate.

Any piece of aluminium that is exposed to atmosphere will oxidize of its own accord in time, depending on where it is placed and under what conditions it is exposed. Therefore this process is useful to the home handy man, the boating enthusiast, and even the radio amateur. Imagine no more corroded chassis, antenna relay boxes, etc.: the uses are endless.

To start with you will require a reasonable quality aluminium. For example, Horwood instrument cases anodize very well, aluminium with a high alloy content sometimes doesn't, and on occasions won't at all.

Anodized aluminium can be dyed with aluminium dyestuffs in almost every colour imaginable and in many different shades (Ref. 1).

Anodizing is an electro-chemical process requiring two types of acid and one alkaline substance to initiate the process. Normally these are nitric acid, sulphuric acid and caustic soda. There are several different grades of acid on the market at varying prices. For this application industrial grade chemicals are sufficiently pure. When measuring liquid, dye powder, voltage and current, reasonable accuracy should be maintained, although most mixtures will tolerate a 10 per cent error and 20 per cent in the case of power measurements.

SAFETY

A reasonable working space will be required to set up shop safely. Ample ventilation must be provided. Placing acid baths under the garage window will provide enough ventilation to exhaust any toxic fumes. A few domestic fans placed at strategic points around the room would be advantageous.

A few simple safety precautions could save you a confrontation with the XYL. For instance, nitric acid makes a nice mess of synthetic or cotton clothing very smartly, and caustic soda takes the colouring out of your Sunday best shoes. Therefore if you own a pair of woollen strides and an old woollen jumper, I would recommend these in preference to cotton football shorts. (Don't laugh, it has happened!) Overalls are OK, but tend to hole easily, as these are predominantly cotton. Incidentally, that old pair of Fletcher Jones you have hanging in the wardrobe will make an excellent acid proof garment.

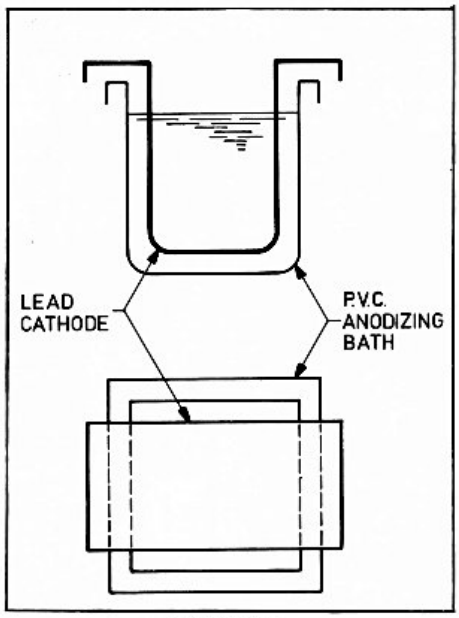


FIGURE 1

A pair of safety glasses for mixing acid would be an obvious advantage, and remember when mixing acid, add acid to water, DO NOT ADD WATER TO ACID! If you have ever done this you will know that violent reactions occur, sometimes for the worse.

CONTAINERS

To have a reasonably streamlined system you will require four containers, one for the caustic soda, one for the nitric acid, one for the water rinse and another for the sulphuric acid anodizing bath. If dying is going to be incorporated in the process one more container for each additional colour will be required.

What size containers you use will depend on what size work you anticipate anodizing. A cheap and readily available container is available to all OM's and XYL's with a relatively new family in junior's old or present babies' bath. Any containers that are used should be fairly solid and sturdy and be of PVC or porcelain construction.

PVC is preferred to other plastics as some are susceptible to acid and will even dissolve on contact. The sulphuric acid anodizing bath must be lead (Pb) lined. A visit to the local plumber or sheet-metal supplier should bring results here. A piece of lead sheet about 10 gauge (1/8 in.) thick, a little shorter than the bath length, covering the entire bottom and extending up both sides of the bath will be ample (Fig. 1). This is the CATHODE (—).

As this is an electro-chemical process, some form of power must be provided. A DC power supply capable of providing between 9 and 12 volts at a peak current of 30 amps will be ideal.

AC ripple filtering is not critical but should be adequate as with all electroplating processes. A variable voltage battery charger with 5000 uF electrolytic across the rectifier will suffice.

The following table indicates current required for various metal areas.

144 sq. in = 15A.
96 sq. in. = 10A.
48 sq. in. = 5A.
9.6 sq. in. = 1A.
(Or in metric units 645 mm per A.)

When working out the area and current requirements the following must be taken into account: A panel has two surfaces, the front surface, which is to be clean and has the required sanded or brushed finish, and the rear surface, which can be in any dirt free condition. Therefore a panel measuring 5 x 5 in. has a surface area on one side of 25 sq. in. Seeing we have a front and a rear surface, 25 + 25 = 50 sq. in total. From the table we approximate 5 amps.

Three baths will be required for this process, as mentioned before.

The caustic soda bath consists of 6 pounds or 2.17 kg of caustic soda crystals mixed with 12 gallons or 54.5 litres of water.

Nitric acid bath: 50 per cent nitric acid, 50 per cent water.

Anodizing bath: 15 per cent sulphuric acid, 85 per cent water.

The chemicals should be mixed 24 hours before use to allow time to cool and stabilise.

Dyeing is the next step and as mentioned previously, the colours and shades available are limited only by your imagination. One small point here, always stir the dye before placing the aluminium in the bath as the powder components will settle on the bottom after a few hours.

PROCEDURE

STEP 1. Take the piece of aluminium to be anodized and sand with the grain of the aluminium using 400 grade Wet or

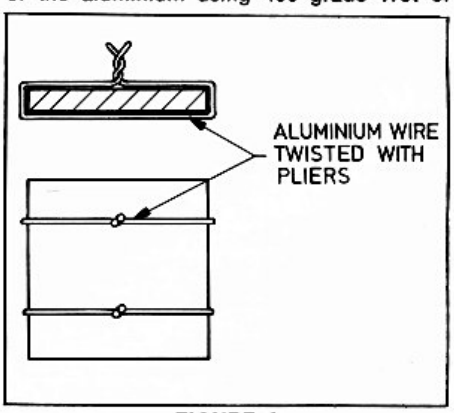


FIGURE 2

Dry sandpaper until all major scratches have been removed, keeping both the aluminium or wet and dry damp with plenty of water. Alternatively, sand blasting can be used if this facility is available, but the anodized finish is not as good and tends to go a greyish colour.

After sanding, take a pad of steel wool and a tin of Vim or Ajax from the XYL's kitchen cupboard and proceed by applying some more water to the aluminium panel and a reasonable coating of Vim or Ajax. Wet the steel wool and rub with the grain until all scratches have been removed, then rinse under water.

STEP 2. At this point we have a clean surface ready to be wrapped in wire. Aluminium wire of approximately 12 gauge (or 2.5 mm) will do nicely. Assuming a 5 in. x 5 in. panel again, place two pieces of wire flat on the bench about 4½ in. apart. Place the panel (clean face down) on the two pieces of wire and fold both ends of both pieces back over one another (Fig. 2), and twist together so a good firm connection can be maintained (Fig. 3). To maintain a good electrical connection right through the process a further twist in the wire (Fig. 4) is desirable. A word of warning, aluminium wire breaks under excessive bending. Experience will be the best teacher in this instance.

STEP 3. Surface Etch. Take the two pieces of wire left protruding from the bound aluminium panel and twist together at the top so as to form one connection point. Take the aluminium panel by the end of the protruding wire and place into the caustic soda bath for one minute approximately. A piece of PVC tubing or wood may be placed across the bath and the aluminium wire hooked over the tubing to save tired arms. After one minute, remove the panel from the caustic bath and rinse in a bath of water. After rinsing place the sheet in the nitric acid bath for 30 seconds.

The caustic soda gives a mild etch and takes any surface dirt out of the pores of the aluminium. The nitric acid acts as a surface cleaner, removing dirt etched out by the caustic leaving a near perfectly clean and positively grease-free surface to be anodized. After the 30 second etch, rinse clean in water. Do not touch the aluminium surface after it has been removed from the nitric bath as this will result in contamination of the surface due to body oils, etc.

STEP 4. Take the piece of PVC tubing, place it across the anodizing bath and submerge the panel about half way between the bottom of the bath and the liquid surface, hooking the wire over the tubing as before. Connect the negative lead of the power supply to the lead cathode lining the tank and the positive lead to the aluminium wire, making the panel the anode.

Check that the panel is not touching the lead liner and make sure the power leads are firmly connected (alligator clips with a 50 amp rating are suggested).

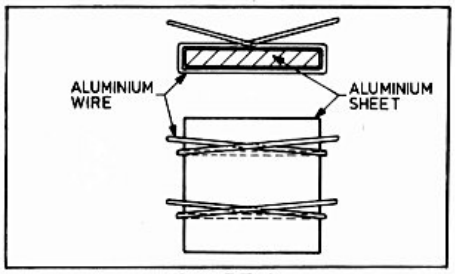


FIGURE 3

Throw the power supply switch and turn the voltage up to 10 volts (9-12V). Again, using a 5 in. x 5 in. sheet we would expect currents of approximately 4-7A to register. This will vary due to acid consistency and temperature.

The bath should be left for 40 minutes, checking the voltage and current every 10-15 minutes, adjusting when required.

Depending on the temperature of the acid, a white smokey effect will appear in the anodizing bath after the power is switched on, this is normal in this process.

An air purge line lightly bubbling in the bath will keep the acid agitated and cool during the process.

After the 40 minutes has elapsed, switch off the power supply and remove the power leads. Lift panel from bath, allowing excess acid to run off.

At this point a decision has to be made, to leave the aluminium clear with a protective finish or to colour the surface with one of the many dyes mentioned in Ref. 1.

If a clear finish is desired rinse the aluminium in very hot water to seal the surface.

However if a dyed surface is required, rinse in cold water, this allows the pores to stay open and accept the dye.

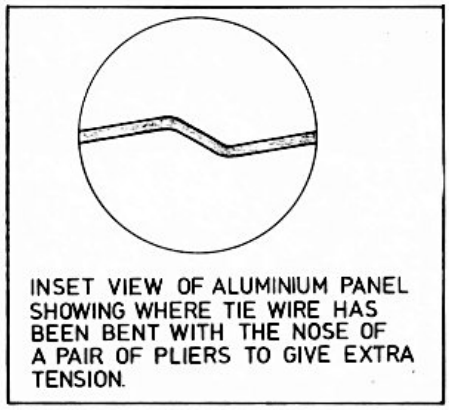
STEP 5. After panel has been rinsed in hot water nothing more need be done, the aluminium is anodized; but if a dyed surface is required two more simple steps need to be taken.

Firstly, loosen the tie wire slightly to allow the dye to run under the wire. Then place the aluminium in the dye bath (stirring before suspending) in the same manner as with the anodizing bath. The aluminium must be left in the dye for a good 20-30 minutes. Then remove from dye bath and rinse under the hot tap, sealing the dye into the surface.

After rinsing, hang the panel up to dry for a few minutes and allow hot water to steam off. It will be noticed that a powdery surface is present; remove this by taking a piece of paper towel or old clean rag and wipe in the direction of the aluminium grain.

To bring a rich strong colour to the surface, apply a thin smear of glycerine or machine oil to the surface and remove excess with a paper towel. Store in a plastic bag.

Well, there it is, anodizing in a nutshell, the way the professionals do it. As mentioned before, the uses are endless. One that comes to mind is anodizing heat sinks



INSET VIEW OF ALUMINIUM PANEL SHOWING WHERE TIE WIRE HAS BEEN BENT WITH THE NOSE OF A PAIR OF PLIERS TO GIVE EXTRA TENSION.

FIGURE 4

black, BUT be careful, anodizing forms an insulating coating on the surface, therefore if electrical connection is needed, the surface will have to be filed through.

Ref. 1. "Aluminium Dyestuffs", by Durand and Huguenin. Australian Agents, Sandoz Australia Pty. Ltd., 675-685 Warrigal Road, Chadstone 3148. Tel.: (03) 568 1033.

One final word concerning acid waste disposal. The Melbourne and Metropolitan Board of Works Trade Wastes Department will provide the necessary information. They can be contacted by ringing 62 0221, ext. 4721, or by writing to 625 Little Collins Street, Melbourne 3000.

If resident outside MMBW's area of control contact your local sewerage authority. ■

YAESU

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- Receiver offset tuning
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- Matching AC power supply with provision for crystal controlled operation available.*

*Availability and price of these items TBA.
Prices and specifications subject to change.

Manufacturer's technical data

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Frequency coverage: 80m 3.5–4.0 MHz, 40m 7.0–7.5 MHz, 20m 14.0–14.5 MHz, 15m 21.0–21.5 MHz, 10m 28.5–29.0 MHz installed; any 500 KHz segment between 28.0 and 29.7 MHz available as option.
Emission: LSB, USB (A3j), CW (A1)
Input power: A1, A3j, 20 watts DC
Carrier suppression: Better than 50 dB below rated output
Unwanted sideband suppression: Better than 50 dB @ 1000 Hz
Spurious emission: Better than −40dB
Distortion products: Better than −31 dB
Transmitter frequency response: 350–2700 Hz −6dB
Frequency stability: Less than 300 Hz drift from a cold start; less than 100 Hz over a 30 minute period after warm-up.
Antenna output impedance: 50 Ohms nominal
Microphone input impedance: 500 Ohms nominal

RECEIVER

Sensitivity: 0.5 μV for S/N 20 dB
Image rejection: Better than 50 dB
IF rejection: Better than 50 dB
Selectivity: −6 dB: 2.4 KHz, −60 dB: 4.0 KHz
Cross-modulation: Better than 60 dB immunity at 20 KHz off a 20 dB input signal typical.
Audio output: 3 watts @ 10% THD
Audio output impedance: 4 Ohms
Power requirements: 13.5 VDC ±10%, 234 VAC 50/60 Hz (with FP-7 or FP-4 power supply)
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CA3035		CD4031		CD40192		LM555CN		OM802	ULN2111
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PLENTY OF PARKING AT REAR STD 02

MODIFICATIONS TO THE YAESU FT100B

Geoff Wilson VK3AMK
7 Norman Ave., Frankston 3199

The following is a list of modifications which I have made to a Yaesu FT-100B transceiver, as has been my policy with previous modifications to commercial equipment there are no external changes or additional controls fitted. This isn't always the easiest way but saves a good piece of commercial gear from unnecessary disfigurement and helps to retain a higher resale value.

INTERNAL SPEAKER

Most FT-100Bs sold locally were fitted with an internal "X" bracket to reinforce the transceiver when used mobile. By carefully removing this bracket and shaping a baffle plate from aluminium to fit on to it a small speaker was mounted over the driver tuning controls between the PA cage and the front panel and the "X" bracket replaced. Make sure that the speaker can be removed if need be to peak the driver coils and the receiver front end. This modification proved very worthwhile, especially for portable and mobile operation and the existing holes in the top of the case give quite acceptable quality audio. The addition of a small jack on the rear panel allows use of an external speaker and automatic switching of the internal speaker when an external one is used. To play it safe and prevent RF feedback bypass the leads to the external speaker with a 0.01 uF.

ACCESSORY SOCKET

The existing nine pin socket on the rear panel was modified along the same lines as FT-101 accessory socket. The filament circuit to the driver stage was left intact but the filament supply to the PA stage was re-wired so that a link was required on the nine pin plug to complete the circuit. The existing wiring to the socket was removed (except the provision for switching external amps, etc.) and terminated inside the transceiver on a tag strip. Next 150 volts, 300 volts, 500 volts and the bias rail were brought to the socket for use with an external transverter if required. A low level RF output was provided by connecting a 10 pF 500 volt capacitor to one 6JM6 grid and to a small coaxial connector behind the PA.

USING PTT DURING VOX OPERATION

The circuit was modified to that shown in Figure 1, this allows the PTT switch to hold VOX on if required.

CW/TUNE MONITOR, BREAK-IN CW

The FT-100B was certainly not designed with the CW operator in mind, the lack of a keying monitor makes CW very awkward and an external monitor requires switching when SSB or AM is used. To operate

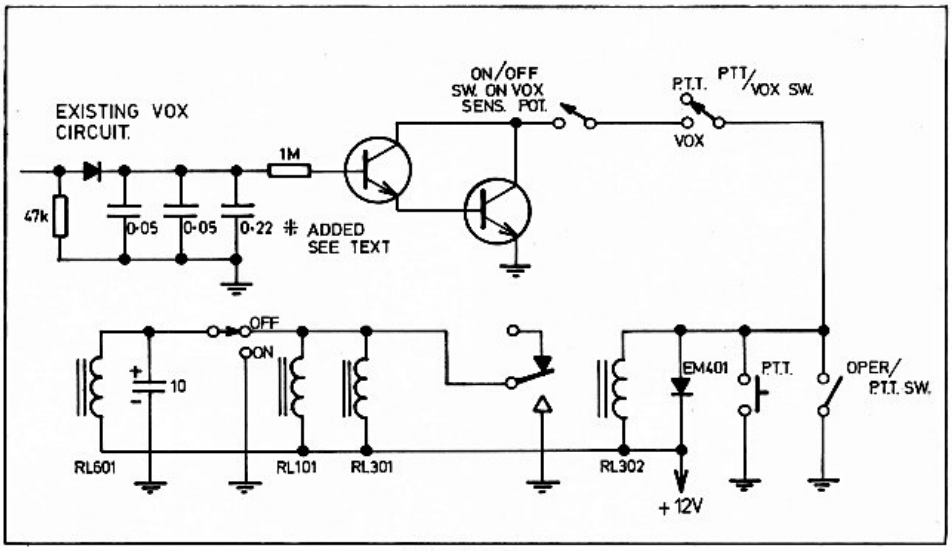


FIGURE 1

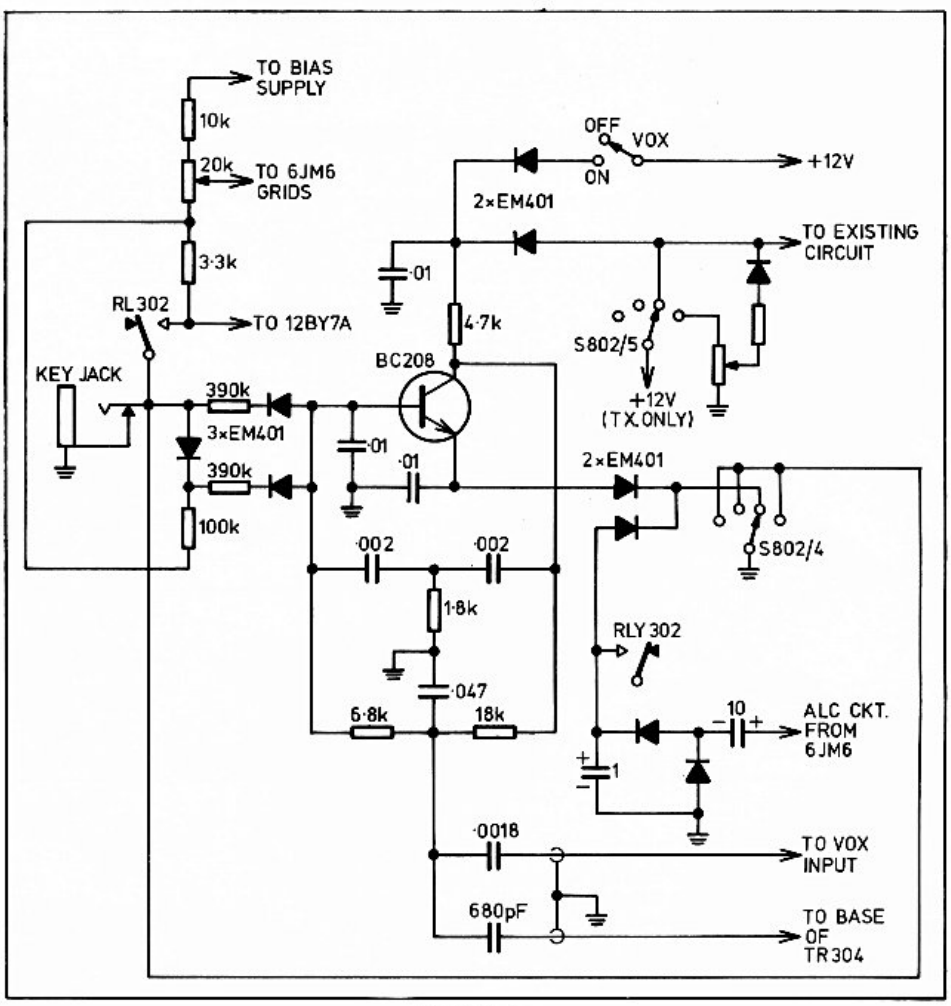


FIGURE 2

on CW the Operate/PTT switch (slider type) have to be placed in the Operate position before keying can be started and then returned to PTT to bring the receiver back on. The alternative is to operate the key with one hand and the microphone PTT switch with the other. Naturally enough the slide switch would have a very short life if CW was the main mode used.

Firstly a keying monitor was added and this proved to be a great improvement over the former system. Further investigation showed that it was possible to use this monitor to trigger the VOX and the final outcome was a workable break-in system. Before attempting to make any modifications I would strongly suggest a very careful study of both the transceiver circuit diagram and the actual circuit components. Unlike the FT-101 which is much neater with its plug-in boards, the FT-100B circuit is more difficult to follow around the looms, switches, relays, etc. Rather than giving a step by step description, I would refer anyone making the modifications to the circuit in Figure 2 and when combined with the original circuit the operating and physical details will be more apparent. Actual layout isn't particularly critical and in my case additional parts were mounted on tag strips. Shield and bypass if necessary the leads going to the VOX and receiver audio amplifier stages to prevent RF feedback.

A BC208 is used as the audio oscillator. By using existing switches isolated by diodes the 12 volt supply is either cut off or the transistor biased off in all conditions except the CW/TUNE mode. Before doing this modification the circuit must first be changed as shown in Figure 1. The output from the oscillator is fed to the receiver audio stage and the level is preset; when the transmitter is operated in the CW or TUNE mode the bias is removed and the oscillator turned on. In the TUNE position the tone is a handy reminder that the transmitter should only be operated for short periods to prevent damage to the finals. This feature is found in the FT-401 and similar models but is notably lacking in the FT-101 series. One feature should be carefully noted with this modification. If the VOX switch is in the ON position and the plug from the key is removed from the key jack while the transceiver is in the CW-TUNE position on receive, the transceiver will lock on at full input. This may result in damage to the final tubes, especially if the antenna has been disconnected, however under this condition the CW monitor will operate and indicate a transmit condition is occurring thus providing an audible alarm.

In addition to the modifications shown in Figure 2 the following minor modifications were also necessary (refer to transceiver circuit). A 1.2 k ohm resistor was connected from the junction of R237, R238 and C232 to earth. Remove the existing link between this point and the junction of R312, R313 and C316. Feed this point from the 12 volt positive rail via 470 ohm resistor. A 0.22 uF capacitor was added to the RC network in the VOX circuit (across the pair of 0.05 capacitors) to increase the hold-in time of the VOX. This may have to be individually adjusted to suit operator's tastes. Less C will make the relay pull in more quickly when the key is first closed but will also drop out again very quickly. More C will increase the time before the relay pulls in due to the increased charge time but will also hold the relay closed after the key is opened until the charge on the C decays.

The VOX circuit is wired through two switches (VOX ON/OFF and SW. POT. ON VOX SENSITIVITY CONTROL), this gives an added safety factor in case the VOX is accidentally left on.

To operate break-in advance the sensitivity potentiometer to mid position or slightly further and the transmitter should key almost as soon as the key is pressed. ■

ADDITIONAL OPERATING NOTES FOR G3LLL FT200/FT250/TEMPO-ONE RF CLIPPER

J. Holding, G3LLL

The following details may be of help to purchasers of the G3LLL RF clipper.

ALIGNMENT (Note: Some cores may be sealed with wax. If so heat with fine tip of soldering iron before attempting adjustment.)

Tune to calibrator signal at 21.1 MHz with clipper switched in, and peak L103 and L104 for maximum "S" meter reading. Tune carefully across the signal and note any excessive peaks or troughs in the response, and if necessary slightly re-adjust L103 and L104 to even the response out. Re-check the response by tuning to the calibrator signal on the 20 and 80 metre bands. If the response is any less even on these bands reset trap coil L1 (see picture page 20 FT.200 manual) so as to even out the response and prevent any tendency to oscillation on these bands.

CARRIER CRYSTAL FREQUENCIES

Carrier crystal setting is more critical on receive than it is on transmit when using the clipper, and occasionally it may be desirable to adjust TC.101 or TC.102. Set for best receive audio quality with the clipper switched in.

TRYING IT OUT

80 metres is not the ideal band to test clippers on as signals are usually strong. By all means ask for quality reports but only expect a really noticeable improvement in readability when your signals are below strength 5. ■

TRY THIS

WITH THE TECHNICAL EDITORS

OP-AMP TESTER

Ever built up a circuit using one of those new-fangled op. amp. I.C.'s and found that it didn't work? Was it the circuit or that multi-legged bug that was at fault? Perhaps you gave up and still don't know. Well here is the good news. Build this circuit and you can check all 709 or 741 type op. amps. The bad news is that you need to wire in three sockets to accommodate all three package configurations. Ah well, life wasn't meant to be easy.

The circuit was developed by A. R. Owens and published in CQ-TV No. 96, November 1976. The circuit provides indications of the op. amp.'s state of health as follows:

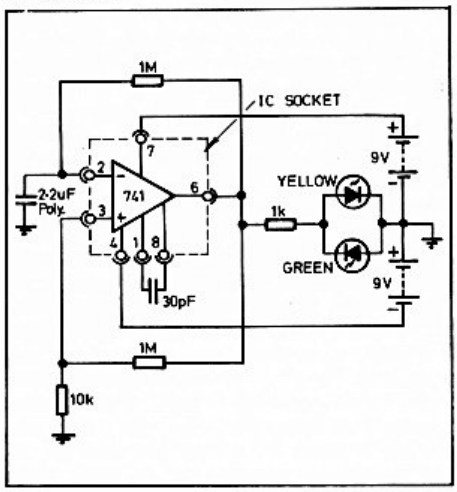


FIGURE 1

Both LED's flash alternately, equal period, 2 second rate — amp. OK.

Both LED's flash alternately, but periods unequal — amp. amplifies but has unequal leakage currents.

One LED lit — input fault.

Neither LED lit — output fault (or battery flat).

No switch is provided as the current drain from the battery is zero until an op. amp. is pushed into the socket.

VK3AFW. ■

WITH THE BOWER BIRD "FREAKS"

A. Shawsmith VK4SS
35 Whynot Street, West End, 4001

It is the private or amateur collector who has been, is and quite likely will remain the strongest force in the preservation of early wireless. Bitten by the "bug", it is his persistent efforts that unearth so many facts and relics of the past, before they are lost forever in the land of the limbo.

As most are aware, we, in this country, for better or worse follow USA trends. In the States, these past few years, there has been a large upswing in the number of bona fide collectors of early wireless and electronic gear. It is encouraging to observe the beginnings of a similar happening here.

The Antique Wireless Association (AWA) of America, with a membership of several hundred is probably the largest single group of private collectors in the world. They are mostly OT amateur and commercial wireless operators. The Association maintains a large museum, which is one of the finest of its kind.

One USA "Who's Who" lists almost 600 private collectors along with their particular interests (as distinct from business houses, museums, etc.). This number could probably be safely multiplied several times, as many, for personal reasons, keep their names off registers — and seldom, if ever, advertise.

Most collectors get started by accident. Aunt Martha's tattered and musty old cathedral has finally gone on the blink, after years of humming and rattling and she wants it fixed. It turns out to be nearly as ancient as the old girl herself: everything in its cockroach-marked interior looks mummified and gargantuan by modern standards. You notice that the cabinet is no flimsy affair but solid oak, ornately finished. Maybe you're no longer turned on by the modern modular units — anyway, you decide to restore and keep it and tell Aunt Martha a white lie by saying it's had its day.

A lay friend drops by with something lumpy wrapped up in half a newspaper, "Dunno exactly what it is but it's been kicked around the garage for years". The object turns out to be a 1920 loose-coupler, built along classical lines. It's complete with variable condenser, glass closed and with fones to match. You realize what an elegant piece it would be, with its brass gleaming, coils cleaned and the redwood base repolished: you can't wait to get started on it. You're hooked and new horizons are about to appear — and the following doggerel might apply:

"Once the 'bug' has really bit
— protest: but that's the end of it.
Nothing now, the fates proclaim
Can ever be again the same."

One has only to read such USA newspapers as "The Collector's News", "Antique Monthly" and others, to realize that if a thing — any old thing at all — has a physical dimension, then there's a collector for it. The scope seems absolutely endless. The same applies within the framework of electronics: the problem is one of a surfeit of choices.

Fin Stewart, Faulconbridge, N.S.W. Australia — Pictured is Fin in a corner of his large museum, believed to be the largest in the southern hemisphere. Although his speciality is early tubes and lamps, he does have a fine collection of broadcast receivers and related equipment. Photo by courtesy of O.T.B., USA.

Some collectors set their sights at the widest possible angle and collect all phases, from the early telegraph to the 1950s. Most, however, develop a particular interest and stick to it. Pre-WWII commercial B/C sets are a popular item and in this field alone, the divisions are many and varied. Some concentrate on eras, or on one or other of the hundreds of specific makes, in an endeavour to obtain all the models produced. Others simply go for the variety of cathedrals available, while others again stick to battery type only. Then there's the "Spark" enthusiast who wants the rare 1900-1915 gear. Old disc devotees like to give their 78s authenticity by playing them through "hi-fis" of the same period. Others make test instruments their thing — the more ancient, the better.

Certain collectors have a passion for component parts, odd spider-wound and honeycomb coils, variocouplers, tubes, Victorian shaped AFTs, condensers, etc. These they display to the best advantage, rightly claiming that such parts are hidden in most cabinet receivers and seldom, if ever, seen.

Specialists narrow their interests to and expand their knowledge in tubes and valves, globes, meters, headphones, telephones, telegraph and associated equipment, morse keys, etc.

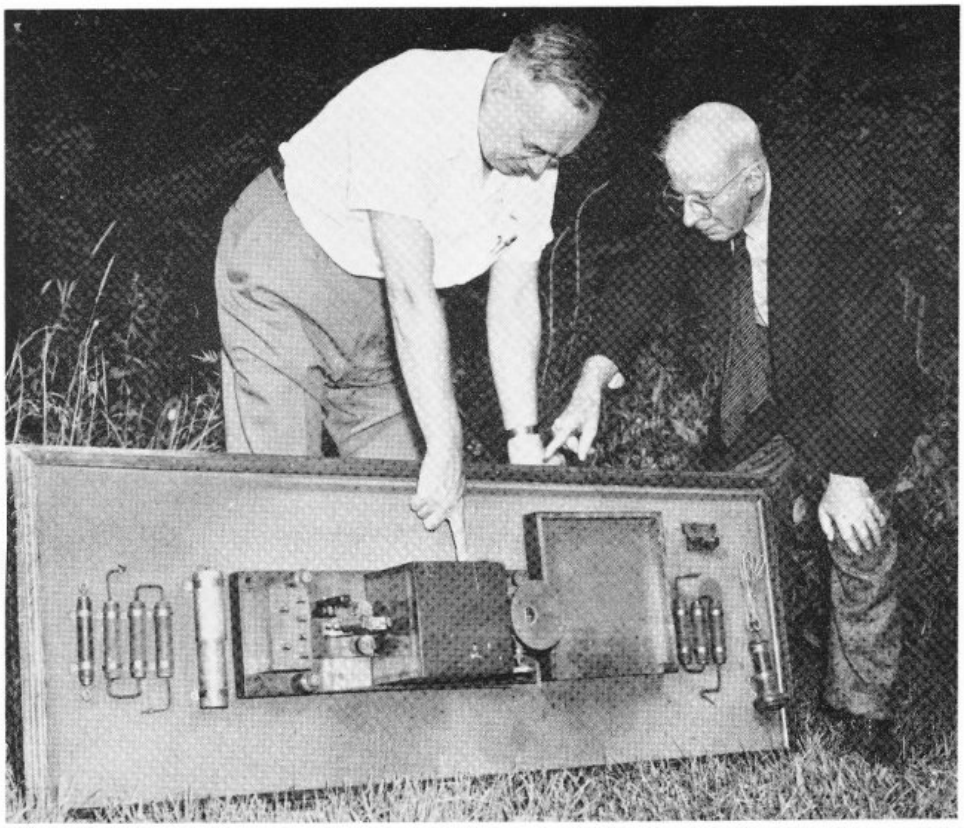
Hornspeakers seem to have a fascination for one and all. They stand anywhere, as a symbol of the first "talking" sets. Their varying shape, style, size and performance has been described as poetic to weird. A glance through McMahon's Vintage Radio Book will confirm this.

Since the first crude earpiece was constructed, hundreds of different types and makes have come on to the market. Pinned to a board in the museum of AWA, USA, are over fifty different headsets, all of which were produced within a span of a few years, in the 1920s. They are displayed to show the diversity that existed, even in those days.

It may surprise most readers to know that in the USA alone, over 1000 patents have been taken out for morse keys — mostly different in design. This number could probably be doubled, as many more were put on the market, plus the types made and used in the Armed Services in WWII. Add to this the number produced elsewhere in the world and the total become such that any avid magpie for morse keys could only hope to obtain a fraction of what is available in his lifetime.

Our newly-gained influence has altered the life style in most households. Ham shacks have come in out of the cold, from sheds and corners under the house, to an indoor's habitat. Most hi-fi enthusiasts

WORLD'S RAREST RECEIVER LOST



Is this the most famous of them all? It is claimed that this LF COHERER RECEIVER was the one used by Marconi on Signal Hill, in 1901, when he received the now famous three dots (letter "S") from the UK across the Atlantic.

Marconi is supposed to have placed the set in the care of a friend, George Clark (OM at right in dark coat). When George died in 1956, all his historical equipment was dispersed and the whereabouts of what could be the world's most famous receiver is now a mystery.

Photo by courtesy of AWA, USA.

manage to set up a separate den, complete with their equipment and wall decor. Collectors, too, try to show off their bits and pieces to the best advantage — or should do so, as early wireless and other gear has a tremendous visual appeal and an even bigger talking point. A half dozen such adornments spread around a shack that is already covered with rare QSLs, certificates and other decor, will win out over the latter every time. Even the totally uninitiated seem to be charmed — particularly if the stuff works. Many pieces of early gear were handsome instruments, craftsman or individually made, with much attention given to quality and aesthetics, the like of which will never be seen again.

The esoteric language of the collector can be quite confusing to the layman. It is well understood what is meant by certain words:—

MINT, in the world of philately, means new (and once a new stamp has been hinged, it then becomes UNUSED); in the wireless collector's book, it could indicate something that has had considerable use for many years but still looks and works as new.

The one word most abused and over which so many are confused is ANTIQUE. Any object has to be 100 years old to earn this distinction. Some morse keys and telegraphic instruments qualify, as they date back to 1848 — but, as wireless started with Marconi, around 1900, there is, in theory, no such thing as Antique Radio. Yet every day there are advertisements to the effect "Sell B/C GENUINE ANTIQUE". This does not mean the seller is out to deceive, as by common consent dealers and collectors seem to have set 50 years, not 100 years, as their own standard of antiquity. It must be admitted, however, that this shortened period probably has commercial advantages. ANTIQUE is an evocative word — and consequently likely to enhance sales.

WIRELESS is a term that came into being at the turn of the century and continued until the early commercial broadcasting days in the late 1920s. The word RADIO then began to have common usage.

VINTAGE, in its loosest application, could mean any time prior to 1950. So, gear designated as such denotes little unless followed by a date or circa.

CLASSIC is another that creates confusion. Some collectors regard any equipment over 25 years old as a classic. Others apply it in the sense that it means any piece, of any period, that's outstanding in workmanship and performance. Then again, there are those who tag it to custom or specially built equipment of high quality, as against that which is mass produced.

Unless there is a need to be specific, or definitive, it is probably best to use the word EARLY rather than the above terms and so avoid misunderstanding.

How and where to unearth the goodies, at a price the amateur hip pocket can stand, is a subject of endemic discourse among those of the cult. Their persistent efforts to run a particular piece to ground would draw comment from Sherlock Holmes. Collectors habitually snoop antique stores, trash and treasure displays, flea markets, disposal shops, junk yards, swap meets, auction marts, pawnbrokers, town dumps, etc. — eternally hoping that something new will turn up. Were it simply a matter of placing an ad. in the local news and then going around picking up the raries, the game would lose its savour and challenge and half of them would drop out.

Club membership is probably the best way to spread your word around. An advertisement placed in the right paper or magazine, from time to time, is likely to produce results. A reliable overseas source is another must: here, the USA offers the greatest possibilities.

The private collector usually prefers to trade, or swap, rather than to sell. In the world of musty, rusty and dusty early components, parts and other gear, a level of supply and demand loosely prevails and so sets the value or price of a certain article. However, at best, this is widely variable and most swaps are made on individual needs. It is necessary only to own two or more genuine pieces of gear, older than 25 years, to be welcomed into the ranks.

It is to the credit of "bower bird freaks" that most play the game honestly and will help any beginner to get started. However, in every activity there are con men — those who are prepared to pass off a bitzer as a pedigree pup. Box numbers under nom-de-plumes, offering plums for sale, should be treated with caution. Most are OK but it is the favourite ploy of the fly-by-night operators: so, Caveat Emptor! (Let the buyer beware!)

The cardinal sin in the business is to dope up some piece of equipment and pass it off as genuine: putting a modern chassis into an antique cabinet is the most common lark. Another gross error is crude or bad restoration work. At its worst, it can render a valuable article fit for the scrap heap. This is the one area where the old cliche really does apply, "If it's worth doing, do it well". Of course there are tricks in every trade. Two in common use are inserting tiny AFTs into old ones that are U/S and doing likewise with valves or tubes. These modifications can be regarded as legitimate or bastard, depending on the availability, or otherwise, of the parts in question.

Harold Burtoft VK2AAH at work in his museum restoring an early battery B/Cast wireless of the 1920s. Harold's large museum was recently shown on TV. It includes old Phonographs and other unusual instruments, besides the many and varied pieces of valuable wireless gear. The museum is open for inspection by appointment only. See story inside.

Photo by courtesy of A. Shawsmith VK4SS.

The destruction of so many valuable pieces from our early heritage is sad. To the uninitiated, treasure soon becomes trash and is disposed of to the junk room downstairs, to the garage, or to the outhouse. There, it may be stripped piece by piece, or simply gathers dust; finally, maybe after many years, its remains are consigned to the city dump. There is a continual loss in this way. The bulk of equipment produced pre-WWII is now on the seabed, or under the sod — and what's left on top already seems to be spread thinly indeed. Many pieces deserve a better fate than a common or unknown graveyard: they would enhance even the most elegant room or shack.

Henry Ford was known to enjoy chopping his own firewood because, he said, "This way it warms me twice". (He is also reported to have said "History is bunk".) Collectors do even better, for they are thrice rewarded — the finding, restoring and displaying is a threefold labour of love.

What makes a "bower bird freak"? This is a good question. There's a little of it in all of us — a hang-over from our primitive past, when it was imperative to hunt and hoard. The instinct still persists in a civilized form. What of the present upsurge of interest — is it just another passing fad or fancy: does affluence have some part in it? We can now afford certain indulgencies, for the first time ever. Is it due to nostalgia and a craving for the familiar and possibly more secure past? Whatever the real reason, the genuine private collector serves his community well: his efforts and contributions have enhanced displays in museums the world over. ■

FREQUENCY PROGRAMMING FOR THE ICOM IC22S

Bruce Riley VK3ZSR
15 Salisbury Street, Wangaratta, Vic. 3677

This programme computes the diode layout for the Australian 50 kHz channelling 2 Mx band plan for the Icom IC22S, and gives an Australian version of the table normally published with the owners' handbook.

Copies of the original program written in FORTRAN IV, may be obtained from the author at the above address (please include SAE).

To program a particular frequency, insert diodes in positions indicated by the figure 1.

In Duplex A mode, receive is 600. kHz higher.

In Duplex B mode, transmit is 600 kHz higher.

N, centre column, is the decimal equivalent of the binary number which is set into the diode matrix. ■

FREQUENCY MHZ	N	DIODE MATRIX D7	D6	D5	D4	D3	D2	D1	D0
144.45	2	0	0	0	0	0	0	1	0
144.50	4	0	0	0	0	0	1	0	0
144.55	6	0	0	0	0	0	1	1	0
144.60	8	0	0	0	0	1	0	0	0
144.65	10	0	0	0	0	1	0	1	0
144.70	12	0	0	0	0	1	1	0	0
144.75	14	0	0	0	0	1	1	1	0
144.80	16	0	0	0	1	0	0	0	0
144.85	18	0	0	0	1	0	0	1	0
144.90	20	0	0	0	1	0	1	0	0
144.95	22	0	0	0	1	0	1	1	0
145.00	24	0	0	0	1	1	0	0	0
145.05	26	0	0	0	1	1	0	1	0
145.10	28	0	0	0	1	1	1	0	0
145.15	30	0	0	0	1	1	1	1	0
145.20	32	0	0	1	0	0	0	0	0
145.25	34	0	0	1	0	0	0	1	0
145.30	36	0	0	1	0	0	1	0	0
145.35	38	0	0	1	0	0	1	1	0
145.40	40	0	0	1	0	1	0	0	0
145.45	42	0	0	1	0	1	0	1	0
145.50	44	0	0	1	0	1	1	0	0
145.55	46	0	0	1	0	1	1	1	0
145.60	48	0	0	1	1	0	0	0	0
145.65	50	0	0	1	1	0	0	1	0
145.70	52	0	0	1	1	0	1	0	0
145.75	54	0	0	1	1	0	1	1	0
145.80	56	0	0	1	1	1	0	0	0
145.85	58	0	0	1	1	1	0	1	0
145.90	60	0	0	1	1	1	1	0	0
145.95	62	0	0	1	1	1	1	1	0
146.00	64	0	1	0	0	0	0	0	0
146.05	66	0	1	0	0	0	0	1	0
146.10	68	0	1	0	0	0	1	0	0
146.15	70	0	1	0	0	0	1	1	0
146.20	72	0	1	0	0	1	0	0	0
146.25	74	0	1	0	0	1	0	1	0
146.30	76	0	1	0	0	1	1	0	0
146.35	78	0	1	0	0	1	1	1	0
146.40	80	0	1	0	1	0	0	0	0
146.45	82	0	1	0	1	0	0	1	0
146.50	84	0	1	0	1	0	1	0	0
146.55	86	0	1	0	1	0	1	1	0
146.60	88	0	1	0	1	1	0	0	0
146.65	90	0	1	0	1	1	0	1	0
146.70	92	0	1	0	1	1	1	0	0
146.75	94	0	1	0	1	1	1	1	0
146.80	96	0	1	1	0	0	0	0	0
146.85	98	0	1	1	0	0	0	1	0
146.90	100	0	1	1	0	0	1	0	0
146.95	102	0	1	1	0	0	1	1	0
147.00	104	0	1	1	0	1	0	0	0
147.05	106	0	1	1	0	1	0	1	0
147.10	108	0	1	1	0	1	1	0	0
147.15	110	0	1	1	0	1	1	1	0
147.20	112	0	1	1	1	0	0	0	0
147.25	114	0	1	1	1	0	0	1	0
147.30	116	0	1	1	1	0	1	0	0
147.35	118	0	1	1	1	0	1	1	0
147.40	120	0	1	1	1	1	0	0	0
147.45	122	0	1	1	1	1	0	1	0
147.50	124	0	1	1	1	1	1	0	0
147.55	126	0	1	1	1	1	1	1	0
147.60	128	1	0	0	0	0	0	0	0
147.65	130	1	0	0	0	0	0	1	0
147.70	132	1	0	0	0	0	1	0	0
147.75	134	1	0	0	0	0	1	1	0
147.80	136	1	0	0	0	1	0	0	0
147.85	138	1	0	0	0	1	0	1	0
147.90	140	1	0	0	0	1	1	0	0
147.95	142	1	0	0	0	1	1	1	0
148.00	144	1	0	0	1	0	0	0	0

THE ONLY STATE OF THE ART 2M ALL-MODE TRANSCEIVER....

IC211
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144–148 MHz with VOX, CW monitor, ac-dc operation, variable power control, FM-USB-LSB-CW.

PLUS ability for complete external keyboard frequency/ function control and microprocessor interface.

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MAKE THE COMPARISON AND SEE WHO HAS THE WINNER ...

	ICOM IC-211	TRIO TS700S	Yaesu FT221R
• **The most flexible tuning system on a 2 meter base station**			
— Fast flywheel tuning	Yes	No	No
— Features *2* completely *independent* VFO systems *built in* with memory storage, standard at no extra cost	Yes	No	No
— VFO style tuning with synthesized stability and accuracy	Yes	No	No
— Programs virtually any repeater split. (No extra crystals necessary.)	Yes	No	No
— High speed electronic tuning advance on SSB	Yes	No	No
— Switched AGC speed control on front panel	Yes	No	No
— Tuning knob locks electrically—no accidental frequency changes in mobile operation	Yes	No	No
— RIT automatically releases on QSY	Yes	No	No
— Operates on FM, USB, LSB and CW	Yes	Yes	Yes
— Capable of external key-board frequency control	Yes	No	No
• State-of-the-art electronics featuring LSI technology	Yes	No	No
• Large *instantaneous* digital Led readout (no waiting for counter update on QSY)	Yes	No	No
• Completely solidstate	Yes	Yes	Yes
• AC/DC power supplies built in	Yes	Yes	Yes
• Separate discriminator and S meters	Yes	No	No
• SWR bridge built in	Yes	No	No
• Variable power output control on front panel	Yes	No	No
• **Fully broad banded over 4 MHz (no peaking/ switching required over 4 MHz)**	Yes	No	No
• Front panel dimmer switch	Yes	No	No

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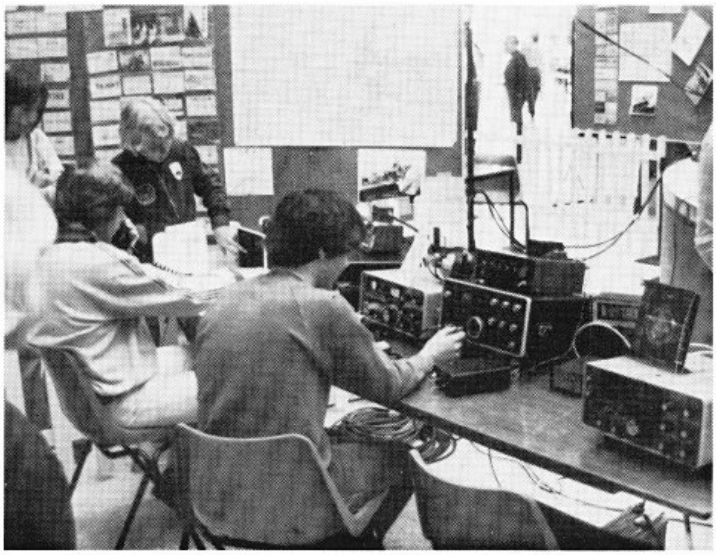
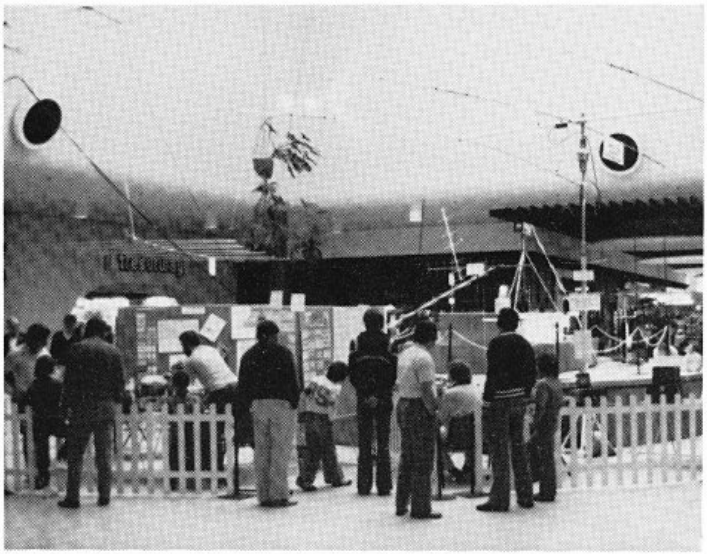
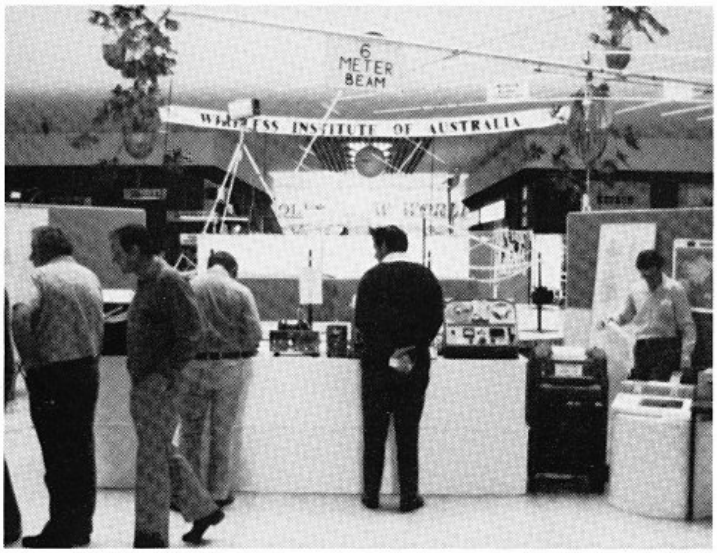
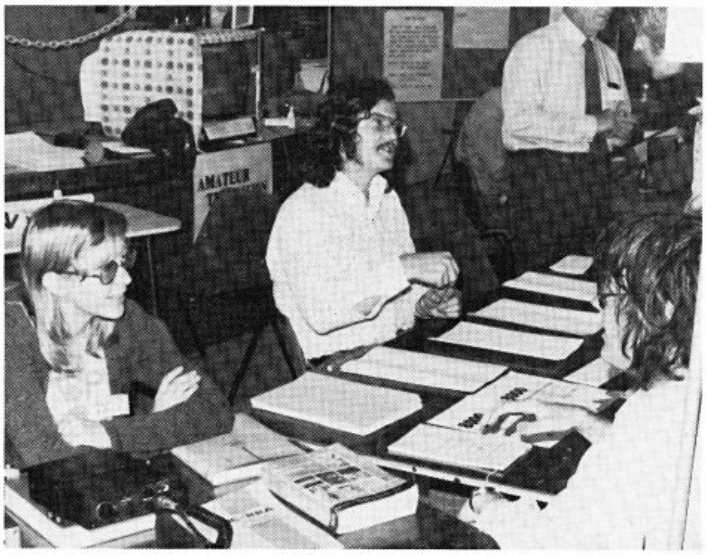
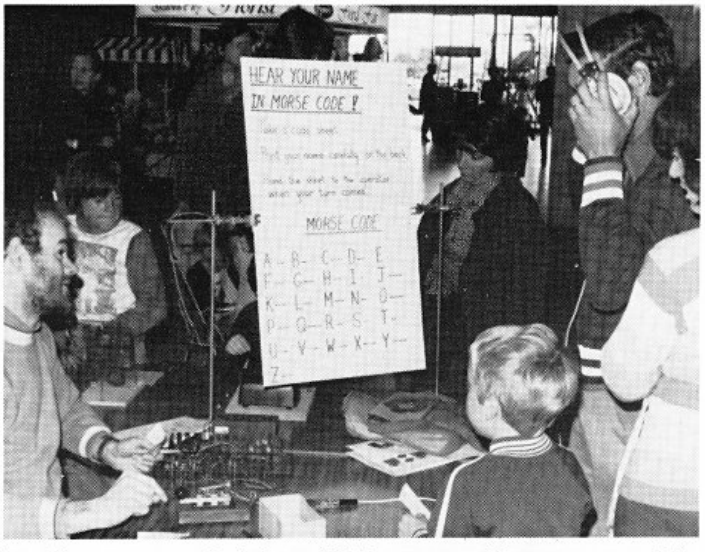
SHOW TIME IN THE WEST — FROM PERTH











VK6 Division display in the Garden City Shopping Centre, Booragoon, October 1977, was a big success. The morse code section was voted a "must" for future displays. The display was a goer with Saturday morning visitors.

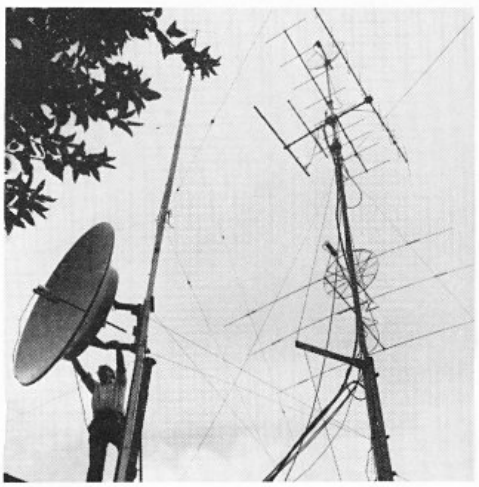
— Photos courtesy VK6NE

THE RON WILKINSON ACHIEVEMENT AWARD

As foreshadowed in WIANEWS in December 1977 AR, a new WIA Award has been made possible through the generosity of Mrs. Mary Wilkinson, widow of the late Ron Wilkinson VK3AKC. Her donation of $1,100 to fund this Award has been invested in Government Bonds so that the annual interest will meet the costs of the annual award insofar as this is possible.

The winners of the Award will be announced each year in the March issue of AR for the reason stated in the announcement below. The details of this Award were prepared by an Executive Sub-Committee composed of Mr. P. Wolfenden VK3ZPA/NIB, Executive Vice-Chairman, Mr. G. F. Scott VK3ZR, Education Co-ordinator, and Mr. B. Bathols VK3UV, Editor of AR. The recommendations of this Sub-Committee were approved by the Executive, slightly modified (award name) by Mrs. Wilkinson, and not disapproved by the Divisions.

The joint winners of this Award for 1977 as selected by the Executive are Wally Green VK6WG of Albany and Reg Galle VK5QR of Enfield, South Australia, for their 1296 MHz record-breaking contact as reported in AR for March 1977.



DETAILS OF THE RON WILKINSON ACHIEVEMENT AWARD

1. **NAME:** THE RON WILKINSON ACHIEVEMENT AWARD.
2. **FREQUENCY OF AWARD:**
   The Award is to be made annually during the month of March — nominal date 3rd March and relates to the previous calendar year insofar as this is practicable.
3. **REASON FOR AWARD:**
   The Award is for special achievement in any facet of amateur radio. The following examples illustrate the level of achievement which will be taken into consideration in making the Award—
   Outstanding communication achievement.
   Article for Amateur Radio Magazine.
   Holder of Australian DXCC.
   Development of state of the art techniques.
   Involvement in Institute affairs.
   Microwave activity.
   Involvement in WICEN, Education Clubs or similar.
   Achievement in using amateur satellites.
   Notable Public Service.
   These are only examples. As can be seen the Award is extended to cover the whole gamut of amateur radio activities.

Left: Reg VK5QR adjusting 2304 MHz dish.

Below Left: VK5QR in his shack.

Below Right: Presentation of certificate to Reg by VK5 Div. Pres., Colin Hurst VK5HI.

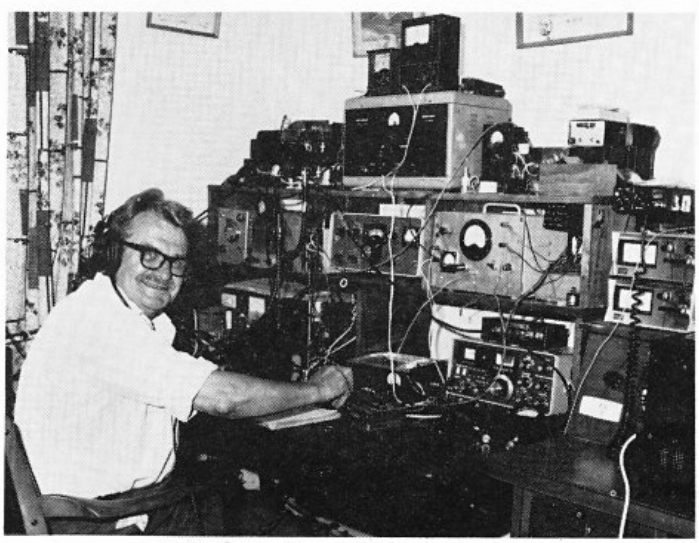
Photos by Christine M. Mahony.

4. **THE AWARD:**
   The Award is to be funded from the interest from the donation by Mrs. Wilkinson, supplemented from Institute funds if required.
   The Award is made up of —
   2. $50 cash.
   1. A certificate.
   3. Books from "Magpubs' to the value of $50.
   4. WIA subscription paid for 1 year.

   In the event of a joint Award, then each party will receive —
   1. A certificate.
   2. WIA subscription for 1 year.
   3. A proportionate amount of cash and books from "Magpubs".
5. **METHOD OF SELECTION:**
   1. The Award will only be available to amateurs from VK call areas.
   2. Preference will be given to WIA members.
   3. Individual amateurs may nominate or make a personal application to the President of their Division by 31st October each year.
   4. The President of the Division is then to forward the most meritorious applications/nominations to the Executive by 30th November, only after satisfying himself that the applications/nominations are worthy of consideration.
   5. The Executive will nominate the recipient of the Award by 31st January, subject to Federal Council agreement if considered necessary.
   6. The Award will be announced in Amateur Radio for March. The nominal Award date is 3rd March each year — the birthday of the late Ron Wilkinson VK3AKC.
   7. In the event of no nominations forthcoming, the Executive may select a recipient ("may not shall").

CERTIFICATE

This is being designed and prepared. A condition is that it will contain a list of all nominees year by year. A facsimile will be published as early as possible. ■



WICEN EXERCISE— RED CROSS MURRAY RIVER CANOE MARATHON

Between Christmas and New Year a canoe race is run between Yarrawonga and Swan Hill. The event is run by the Red Cross and the canoeists have to paddle 400 km over five days.

Since December 1972 the essential safety communications have been provided by a team of Amateurs operating a WICEN net. The net consists of a portable control station with other portable and mobile stations which moves down the river keeping up with the canoe race.

The race is organised by the Victorian Division of Red Cross and the WICEN group from Victoria provide the operators for the WICEN net.

For the December 1977 race 30 Amateurs took part and provided a self-contained HF and VHF control station, VK3AWI, as well as four portable HF and VHF stations at control points along the river. Mobile stations with both HF and VHF were used to provide mobile relay stations for VHF mobiles temporarily installed on power boats. These power boats provide assistance to canoeists on the river and require communications to arrange first aid and evacuation of canoeists.

The team of operators arrived in Yarrawonga on Boxing Day; mostly without incident except for Kevin VK3AUQ, who found that Subarus don't run too well on mixed oil and water.

The weather is usually fine and hot but on the first day there was light rain and a stiff breeze. The conditions prompted John VK3ZCX to don his trusty overcoat and some wit dubbed him "The Flasher", which stuck for the duration.

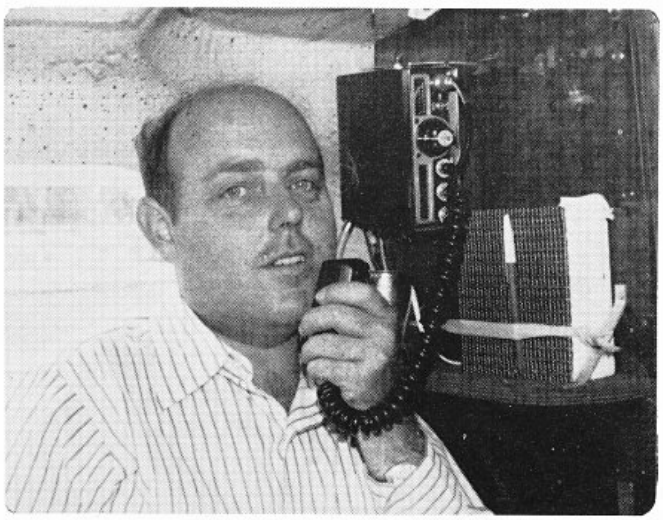
On the final day Morrie VK3BMD, inspired no doubt by the amber fluid, took to the water with one of the organisers and paddled a canoe called Fosters. A pretty good effort as they paddled the full 76 km for the day.

The marathon winds up with a barbecue on New Year's Eve in Swan Hill and a good time is had by all as they unwind.

Those taking part in the 1977 marathon included VK2AGO, VK3s AAE, AED, AEJ, ANX, NFY, ALX, AUI, AUQ, AVJ, AYL, CCT, BGM, BJM, BMD, BER and BIR and family, NB, ZCX, ZIM, ZIW, YBS, YCQ, YJE, YJM, NDD, ZJS.

An enjoyable time was had by all taking part. If you would like to take part in the next marathon John Payne VK3AED would be pleased to help you. He may be contacted via the Victorian Division Rooms at 412 Brunswick Street, Fitzroy.

VK3AUI.



VK3AUI installed in safety boat RAJ II.

River bank check point, VK3AAE/VK3YJM.

Safety patrol boats, VK3AUQ in boat.

Peter VK3ANX and Martin VK3YJM manning a check point.

ATV NEWS

KEVIN CALLAGHAN VK3ZVJ
PETER COSSINS VK3BFG

The British Amateur Television Club is currently celebrating the 100th edition of CQ-TV by introducing a new award for transmitting and receiveing fast scan high definition television. The following is an extract from CQ-TV, November 1977.

THE CQ-TV AWARD

Transmitting Award

For pictures transmitted which have been successfully identified by another station, claim 2 points per kilometre. If the contact becomes a successful 2-way exchange of pictures the 10 bonus points may be claimed by each station regardless of distance. Careful logging of transmissions is essential.

Receiving Award

For any picture positively identified, claim 2 points per kilometre. If any contacts are on 23 cm or above, the points should be doubled.

The award is divided into 3 grades —
Bronze 1,000 points.
Silver 5,000 points.
Gold 10,000 points.

A station may be worked only once per day, commencing 1st November, 1977.

Certificates are available for this award and may be upgraded with silver and gold seals.

Applications, including return postage and log details, complete with call sign, date of QSO, band, location of station worked and points claimed, contacts made other than from the home station to be clearly marked, should be made to —

John L. Wood G3YQC,
54 Elkington Road, Yelvertoft,
Northampton, NN67LU.

QSL cards are not required but logs should be checked and signed by one other licensed amateur.

Note that VK3s would qualify for a bronze award for 2 contacts to VK7EM and that Winston (or any other VK7) could notch up a gold in a couple of good nights. It would be nice to show the Gs how it is done.

Ian VK3ALZ has kindly furnished me with an updated version of his cathode modulator. The new model is much improved and includes sub-carrier audio. I will provide complete details of this in a later edition of AR.

Activity on 1296 MHz is on the increase in Melbourne. Les VK3ZBJ, Ian VK3ATY, Ron VK3AHJ, Ian VK3ALZ are already transmitting and receiving pictures with a number of other stations in the planning stages. Edition 4 1977 VHF Communications has an article on a solid state transverter for 1296 that would be ideal for stations with IF modulated television transmitters. The unit is rated at about 200 milliwatts in television service and would be a good exciter to get you on the band.

On Monday evening, the 30th of January, the monumental television contact of the decade occurred in Melbourne. VK3ZVJ initiated a transmission on 426.25 MHz. This transmission was received at VK3ZBJ and re-transmitted on 1290.25 MHz. VK3ZBJ's transmission was received at VK3AHJ, who re-transmitted the signal to VK3ATY on 581.6 MHz. VK3ATY then re-transmitted the signal on 1290.25 MHz. Unfortunately VK3ZVJ had no receiving equipment to close the loop. ■

TECHNICAL CORRESPONDENCE

The Editor,
Dear Sir,

Please note that the postscript on page 13, January 1978 AR, is erroneous (the $50 part).

I was misquoted, and I wish to apologize to Norm Wilson VK4NP for any inconvenience this may cause.

FURTHER: A minor misprint was that the 5058 stores 1024 8 bit words. This should be 1024 *bits*.

Also any number of 5058s can be added one after the other to expand the storage capacity.

H. G. Kociemski VK2BIT. ■

AMATEUR SATELLITES

Bob Arnold

VK3ZBB

As mentioned last month Charlie VK3ACR is now maintaining a weekly liaison with Harry JA1ANG, and his contacts have already proved valuable to Dave Hull VK3ZDH operator of the Melbourne command station.

Harry writes "Season's Greetings to All. Welcome to you, Charlie VK3ACR. Our thanks go to David VK3ZDH for making the introduction. Now that we have a link with Melbourne, we feel more secure than before. David is responsible for Project Australis of AO5 fame, also he runs the telecommand station in Melbourne. Needless to mention, without his unselfish telecommand activities AO6 would never have 'lived' so long".

"He will be commanding AO8 for us as soon as AO'D' becomes AO8. Although details have not been announced by AMSAT yet, it looks like AO8 will be operated in Mode A during the week and on Mode J over the week-ends and I am sure David will be kept busy in telecommand chores in conjunction with other command stations such as VESAT and G3YJO. Thanks, David, for your hard work."

Harry's letter gives us a further update on AO"D" which has now completed Thermal Vacuum Tests at COMSAT Labs. in Maryland, USA. Several anomalies were noted and these will be corrected by W3PK and helpers at AMSAT headquarters. Painting of the satellite is now being undertaken at ARRL so everything should be in order for launch on March 5th, 1978, roughly the date you will be reading these notes.

AO"D" will be launched at 1730-1800Z aboard a Delta rocket together with LANDSAT-C and NASA's PIX satellites. Further orbital details were given in AR November 1977.

I hope all OSCAR operators will have received news via Divisional broadcasts of the new operating schedules for AO7.

Effective 1st January, 1978, the sequence is BBA BBA ———, this is detailed in the orbital data attached. While on orbital data, my apologies for errors in the February predictions — I know my maths are weak, now I know I cannot read a calculator correctly!

JAMSAT has a 28 MHz pre amp available in kit form or "wired and tested". The unit uses one MOSFET and operates on a 9 volt battery. The price of the kit is $US6.00 (or other currency equivalent) post paid airmail. Please write to JAMSAT, P.O. Box 117, Tokyo Central Post Office, Tokyo, 100-91, Japan, for attention of JR1SWB.

A second book on OSCAR has recently been published. This is entitled "Getting to Know OSCAR from the Ground Up" and is available from ARRL, Newington, CT.06111, USA, at $US3.00 and also from The Technical Book Shop in Melbourne at a much higher price.

The book consolidates a series of articles which have appeared in QST and covers virtually every topic one needs to know about the present and future satellites launched under the auspices of AMSAT.

As the various chapters in the book were originally published as articles in separate editions of QST, there is inevitably some repetition but this does not detract from the general usefulness of the publication, in fact, it tends to reinforce important topics which may otherwise be missed.

The sections on "Finding OSCAR" and "How to Use OSCAR 7 Mode B" are clearly written and the whole book is well illustrated with drawings and photographs.

A particular section refers to "The OSCARLATOR", and a coloured map is available to assist in predicting OSCAR orbits. Unfortunately, this map is for the Northern hemisphere and is of little use to operators in Australia but the same methods adopted for locating OSCAR in the North are applicable to the Southern hemisphere if one is able to obtain a suitable map centred on the South Pole.

In my review of last month of the German publication, I mentioned the absence of practical information on antennas; these are more comprehensively covered in the ARRL book and the photographs clearly illustrate the types of installation which can be constructed using conventional rotators and relatively simple Yagi antennas.

Although Australian amateurs have not been in a position to listen to or use educational and experimental programmes conducted through the OSCAR series of satellites, there is a chapter on this subject which clearly illustrates what has been done by those who have been involved in this type of presentation. Many amateurs are interested in the Phase 3 satellite which, through its elliptical orbit, will give much greater coverage than the series to date and some detail on the Phase 3 satellite, together with a diagrammatic representation of the on-board equipment, is included.

An index is provided and this will be handy for those who may have already read articles in QST magazine. A most useful book for those interested in the use of OSCAR 7 and subsequent satellies.

OSCAR SATELLITE STATISTICS

These statistics taken from the AMSAT news letter compare the first six OSCAR series and the Phase 3 spacecraft with one another. It can be seen that the spacecraft grew in complexity as the state of the art advanced.

An interesting factor is the "plateau" that shows up during the phaseover from Project OSCAR to AMSAT between OSCAR 4, Australis-OSCAR 5, and AMSAT-OSCAR 6.

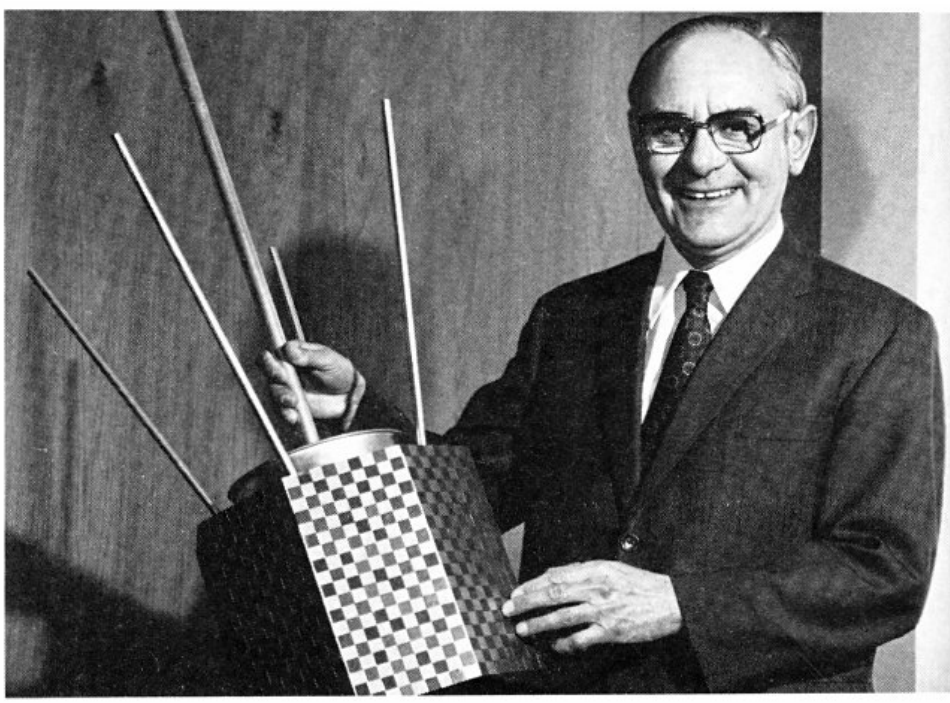
OSCAR 7 PREDICTIONS

MARCH 1978

Date	Mode	Orbit No.	Time Z	Long. °W
01	A	15050	00.23	61
02	B	15063	01.17	76
03	B	15075	00.16	60
04	A	15088	01.10	74
05	B	15100	00.10	59
06	B	15113	01.04	73
07	A	15125	00.03	57
08	B	15138	00.58	71
09	B	15151	01.52	85
10	A	15163	00.51	69
11	B	15176	01.46	83
12	B	15188	00.45	68
13	A	15201	01.39	81
14	B	15213	00.39	66
15	B	15226	01.33	80
16	A	15238	00.32	65
17	B	15251	01.27	78
18	B	15263	00.26	63
19	A	15276	01.20	77
20	B	15288	00.20	62
21	B	15301	01.14	75
22	A	15313	00.13	60
23	B	15326	01.07	74
24	B	15338	00.07	58
25	A	15351	01.01	72
26	B	15363	00.01	57
27	B	15376	00.55	70
28	A	15389	01.49	84
29	B	15401	00.48	69
30	B	15415	01.43	83
31	A	15426	00.42	67

APRIL 1978

Date	Mode	Orbit No.	Time Z	Long. °W
01	B	15439	01.36	81
02	B	15451	00.36	66
03	A	15464	01.30	79
04	B	15476	00.29	64
05	B	15489	01.24	78
06	A	15501	00.23	63
07	B	15514	01.17	76
08	B	15526	00.17	61
09	A	15539	01.11	75
10	B	15551	00.10	59
11	B	15564	01.05	73
12	A	15576	00.04	58
13	B	15589	00.58	71
14	B	15602	01.52	85
15	A	15614	00.52	70
16	B	15627	01.46	84
17	B	15639	00.45	68
18	A	15652	01.40	82
19	B	15564	00.39	67
20	B	15677	01.33	80
21	A	15689	00.33	65
22	B	15702	01.27	79
23	B	15714	00.26	64
24	A	15727	01.21	77
25	B	15739	00.20	62
26	B	15752	01.14	76
27	A	15764	00.14	61
28	B	15777	01.08	74
29	B	15789	00.07	59
30	A	15802	01.01	73



Bob Arnold VK3ZBB with his half scale model of Oscar 7.

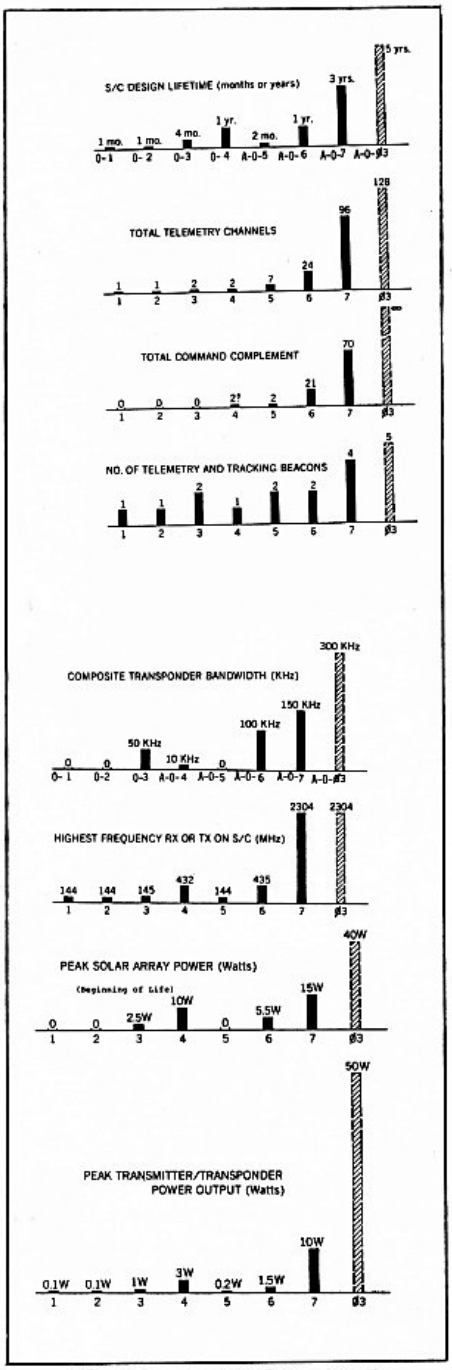


FIG. 1. (Courtesy AMSAT Newsletter.)

DO'S AND DON'T'S FOR SATELLITE USERS
(By courtesy of AMSAT Newsletter)

Don't turn on your carrier, whistle, send CW or otherwise **UNTIL** you can hear the satellite as evidenced by the beacon. If you have a poor downlink and a good uplink, as the vast majority of European users have, the chances are that you will be blotting out someone's DX QSO who **can** hear you — and how!

Don't run more than 100W e.r.p. at any time, you will push out those who are playing the game, and give them grounds for irresponsible operating also.

Don't call that rare DX station you have already worked if others are calling him, or you will be preventing them having a chance.

Don't call stations in your own area at horizon times, as they have but a few seconds daily in which to work the distant ones, but most of any orbit to work you.

Don't call CQ incessantly. A short burst is quite enough, then listen, otherwise you are depressing AGC and using up battery power unnecessarily. Many of the rare ones are crystal controlled, and you will need to **listen** for them, and they won't get in any way if everyone is transmitting.

Don't transmit SSB in the lower half of the satellite input segment, nor CW in the upper, or you will upset the common mode operation scheme. Also, keep 5 kHz clear of the beacon frequencies.

Don't transmit off schedule, nor on any Wednesday, unless you have specific permission to do so, otherwise you will be wrecking others' attempts at valuable work.

Do be aware of the other guy's horizon, as he may be trying to get those on the limit.

Do pay maximum attention to your receiving system, as when it is good enough you will hear returns from even 100 mW e.r.p. Mode B uplinks, and hence work a lot more DX, and run less power yourself. Attention to higher gain, lower angle and less noise on your downlink is cheaper and far more productive than anything else you can do.

Do tell other stations who are not qualifying for the above conditions, **fifty times if necessary**, as they will not cease their bad practice unless they are helped to realize that it is unethical.

Do listen attentively on the frequency that you are considering using, until you are sure that another station is not already there.

Do use the outer limits of the passband, thus avoiding the already overcrowded centre, and encouraging others to spread out, too, to avoid unnecessary QRM.

Do listen to codestore, bulletins, news items and the nets, and benefit by applying the updated operational information heard.

Do keep clear of specific frequencies where rare or weak ones are known to be, and do not sit there and call CQ hopefully, listen instead.

Do move off a frequency where you have answered a CQ or a call, as it is the original caller's frequency, and he may be crystal controlled.

Do let people know if you are crystal controlled by adding "CC" or "Xtal" with your call, so that they can comply with the above.

Do try to be patient enough to listen for and work the weak ones, as it is possibly their first OSCAR QSO.

Finally, **do** try to have meaningful QSOs via OSCAR, e.g. by spreading the word on new stations, schedules, and items of common interest, rather than merely exchanging a few numbers. Names and QTHs are a common courtesy on all amateur QSOs, so why not on OSCAR? ■

DIVISIONAL NOTES

MODERN CONDENSED VERSION

VK2

Welcome to Divisional Notes in AR. Greetings to other States from VK2.

VK2 members are reminded that the 1977-78 Annual General Meeting is on Friday, 31st March, 1978, at the registered office, 14 Atchison Street, Crows Nest, N.S.W., from 20.15 h. Further details in the Minibulletin.

Easter time is Urunga time — check with Amateurs on the VK2 North Coast for details. Further information via broadcasts.

Work has been under way since late last year to re-establish the transmission of the Division's morning broadcast (11 a.m. Sunday) from our Rural site — VK2WI. For some time VK2AWI — Crows Nest — has been used for HF transmissions with poor results. As equipment is obtained and installed most of our HF transmissions will radiate from VK2WI. The programme will continue to originate from VK2AWI.

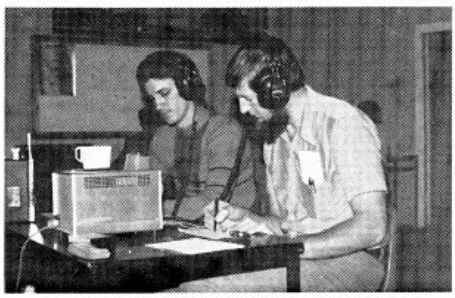
The Division now conducts a RTTY broadcast on HF bands in addition to the present voice session. VK2RTTY; Frequencies (some or all) 80 m = 3545 kHz, 40 m = 7045 or 20 = 14090; Duration ½ hour. Transmission time — 0030 GMT Sunday. Call sign points — various members of the RTTY group. For communication with the VK2 RTTY Group write to: RTTY Secretary, C/- 14 Atchison Street, Crows Nest 2065. The Federal RTTY Committee is also in VK2 — Chairman, Charlie VK2BXX, address as above.

73 de VK2ZTM ■

VK3

A trial Novice exam is to be held Saturday, 15th April, at a central location in Melbourne to be advised to applicants in addition to the time.

The trial exam in 1977 and this one are intended to improve the degree of preparation of candidates for the official exam in May. In the 1977 series the pass rate for those who entered for the trial exam was about twice the average Novice pass rate. Many candidates said they would not have passed the official exam if they had not first sat for the trial exam because of decreased nervous tension (especially in the morse), specific preparation for many question types and advance familiarity with the routines in use.



More sending test in progress. (Graeme Scott VK3ZR(R), one of the morse examiners.)

In the trial exam the answer papers are returned to candidates after being marked, thus helping to pinpoint weaknesses.

Send your full name, address and telephone number, plus $1.00 postal order or cheque (made out to YRCS) to YRCS Trial Novice Exam, 11 Vista Avenue, Kew 3101. First come first served. ■

QSP

WANTED

Members willing to put something back into their hobby. Come forward and get involved with your Division's Council and its various committees, or at the very least support, promote and publicise the WIA on the air and at your local Club meetings. Don't forget that WARC 1979 is now only one year away.

JACK HUM

All the OTs will know G5UM, contributor for many many years to amateur radio and RSGB activities. Bob Arnold VK3ZBB was in the UK late last year and sent in a cutting from the Leister Mercury of 29th October, containing an article describing Jack's activities during the 50 years he had been licensed and a local celebration to mark the occasion. "Uncle Mike" is a Life Vice-President of the RSGB and is still active on the air and a very keen VHF-UHF Microwave user.

TURKISH QSLs

A letter of 10th January from the Turkish Amateur Radio Society (TRAC) QSL Manager, Halit Yetkin TA1HY, advises that many QSL cards arrive for unknown calls at the QSL Bureau, PO Box 699 Karakoy-Istanbul. His letter listed the present known and active stations as TA1HY and TA1ZB (TA1 being European Turkey) and TA2HIA (TA2 is Asiatic Turkey). A list of past and sporadically active stations was enclosed with that letter and has been copied to VK QSL Managers.

WPX

What does this mean? Worked Prefixes. It is a CQ Magazine Award (see CQ May 1976, for rules) based on collecting contacts with as many different prefixes of stations as possible. Thus: VK2 is one prefix, VK3 another, VK8 another, JA1 another, and so on. The WPX Honour Roll published in Dec. '77 CQ lists only on VK. He is VK3AHQ with a score of 809 prefixes confirmed in the CW section; top score in this section is 1312 prefixes, 1443 in the SSB section and 1675 in the mixed section. Incidentally, the only ZL in the Honour Roll is ZL3NS, scoring 874 in the SSB section.

bail — Antennas and antenna accessories

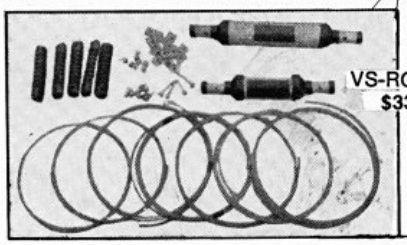
Universal antenna couplers

Extremely important, especially with modern all-solid state transceivers, is the maintenance of a very low SWR to avoid destruction of costly high-power P.A. transistors. An antenna coupler enables precise adjustment with almost any antenna.

HC 500A — 160-10m, up to 500w pep $119

(also available — not illustrated)
HC 2500 — 160-10m, up to 2.5kw pep **$256**
HC 500 — 80-10m, up to 500w pep **$112**
HC 250 — 80-10m, up to 200w pep **$92**
KW E-ZEE Match — 80-10m, up to 400w pep **$109**
FC 301 Yaesu — 160-10m, up to 500w pep **$195**

SWR AND POWER METERS
VHF ANTENNAS
HF MONOBANDERS
HF DUO BAND
HF TRIBAND BEAMS



HIDAKA'S VS-41/80KR

for 10 thru 80 Meters

- **An Individually Tuned High-Q Trap for Each Band**
- **Takes Full Power**
- **Rugged Total Performance Construction**
- **Easily Installed Using Minimum Space**

Now . . . a modestly priced easily errected all-band vertical that delivers outstanding omni-directional performance on each band . . . HIDAKA'S Model VS-41/80KR. It is ruggedly constructed of heavy gauge, taper-swaged aluminium . . . uses four separately tuned High-Q air dielectric traps . . . each trap factory tuned to provide maximum performance 80 through 10 meters. Uncompromised performance for short haul or DX communication is ensured by the low angle radiation pattern developed by the VS-41/80KR. SWR is 2:1 or less on all bands. If mounted in an elevated position a radial wire system should be used. An accessory TRAPPED radial wire kit is available, the Model VS-RG. The VS-41/80KR comes complete with Terelyne guying cord.

TECHNICAL DATA

Power Rating ..... 1 kw AM, 2 kw SSB
Feed Line Required .... 50-70 ohm coax
Minimum Ground Required .. 8ft. Ground Rods
Overall Height ..... 28.4 ft.

ANTENNA ACCESSORIES

LA-1, Lightning Arrestor, for installation in standard 52 or 72 co-axial feedline, designed to Mil. specs.	**$76.00**
LA-2, smaller size co-ax arrestor	**$4.95**
BN-86, ferrite Balun, 2 kW, for Beams and Doublets	**$30.00**
VS-BN ferrite Balun 2 kW for Beams and Doublets	**$26.00**
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BA-1 ferrite Balun 2 kW 1:1, light weight	**$22.00**
HN31 Dummy Load Cantenna Kit 1 kW oil cooled (oil not included)	**$45.00**
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TV-3300 Drake L.P. Filter, 3 Section, 1.5 kW	**$39.00**
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300 Mast Stay bearing for above	**$32.00**
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1103MXX Extra Heavy Duty	**$339.00**
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C.A.R.E.

(Community Amateur Radio Events)

TRIAL BY SEA

On December 24th, 1977, a 35 ft. Duncanson yacht left Sydney Harbour with seven people on board, bound for Lord Howe Island. About 48 hours later they were to find themselves in a dangerous and frightening situation 200 miles at sea, their sole means of shore communication being with amateur radio stations in N.S.W.

The yacht "Gandalf" was (and still is) a well found 35 ft. GRP yacht, fully equipped for long offshore races. She had just completed a racing season and with owner/skipper Don (VK2NFF) and a crew of four men and two women, was off for a holiday. Her usual ship-to-shore radio had been augmented for this trip by an Atlas 210X and skeds had been set up on 3.55 MHz with Ken (VK2BKE) on the Island and Eric (VK2NAV) in Sydney.

After two days hard sailing the yacht was 250 nautical miles along the track, was laying the Island and moving well in heavy seas under reefed main and working jib. Skeds had been kept with VK2NAV and VK2BKE but contact had been lost with Sydney Radio.

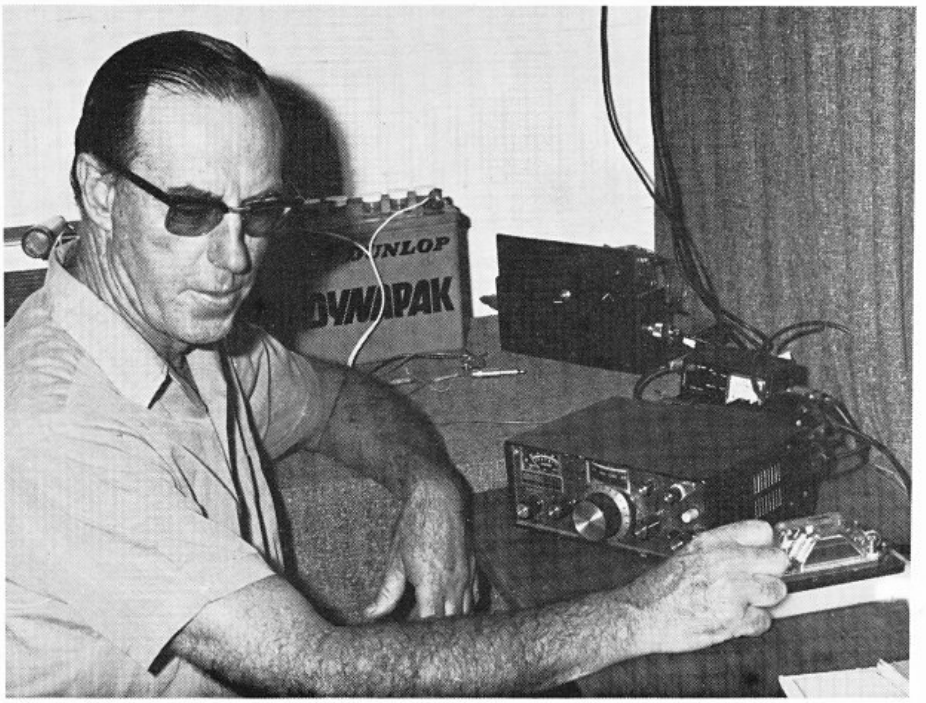
On the evening sked on Boxing Day a message was received from the yacht that she had sprung a leak and was returning to Sydney. The tube carrying the rudder gland and bearing had broken away from the hull. Temporary repairs had been made but she was leaking badly and continuous hand pumping was required to control the water level. VK2NAV advised the Police and they in turn advised Sydney Radio. Messages to and from the yacht were then passed via the amateur net to Sydney Radio and on to Marine Ops. Canberra.

Within about 12 hours of the accident occurring Eric (VK2NAV) experienced bad QRM and contact was maintained through Alan (VK2NFO/P) who was holidaying at Pt. Macquarie. The Hornsby Radio Club network was put into operation and maintained contact on 3.555 MHz until the morning of December 28, when it became necessary to move off the 80 m band on to 7.050 MHz. Regular skeds were maintained on that frequency until p.m. on Wednesday 28th, when the yacht was able to make contact again with Sydney Radio. For the last 24 hours or so VK2NFF on the yacht used CW due to microphone failure.

For a period of almost 48 hours — that is from p.m. on December 26th to p.m. on December 28th regular skeds were kept through the Amateur Radio network. This enabled the yacht to report its position, course and speed, and advise any deterioration in its situation due to weather, pump failure or further damage. Weather reports were passed back to the yacht and this enabled the crew to be prepared for any sudden change in the weather pattern. The value of this information was dramatically demonstrated during the night of 27/28 December. A strong southerly front was predicted — the same front that caused most of the retirements in the Sydney-Hobart yacht race. The knowledge of this accurate prediction enabled the yacht to be prepared for the change and no further damage occurred. However, it was not possible under such circumstances to make for Sydney and a course was set for Newcastle, where the yacht arrived during the morning of Thursday, December 29.

Extracts from Telex message from Hornsby District Amateur Radio Club to RFMD, Sydney, give a synopsis of the incident.

> "Yesterday morning (27 December) notification was received from Police that a message had been received by an amateur radio operator (VK2NAV) concerning a vessel taking water out to sea from Port Macquarie. The amateur operator on board the vssel is VK2NFF. The vessel is GANDALF VJ5244. Contact with the ship was maintained by amateur radio due to problems with his solas transceiver. The frequency used has been 3550-3555 kHz until this morning (28 December, when it became unworkable. Control station at the time (VK2DI) re-established contact with the ship on 7050 kHz. Regular skeds are being maintained on or about this frequency. The Hornsby Club Station (VK2APF) has been "activated" as the control station at this time. Other amateur stations are being allocated this task as required. Messages are being handled between the vessel and Marine Operations Centre via Sydney Radio's facilities as they are telephoned in by the amateur stations concerned. A local VHF net is also operating in Sydney on 147.25 MHz (primary) and on 147.35 MHz (secondary). This is for co-ordination purposes. . . . (vessel) managed to establish contact with Sydney Radio yesterday afternoon on maritime frequencies at about 0500Z. As such, the amateur nets and skeds with him were concluded at 0730Z (28 December), and all stations resumed normal operation. . . . participating net stations in contact with VK2NFF during the entire operation were — VK2NFO/P, VK2NAV, VK2ANF/P, VK2AAB, VK2NOB, VK2NOA, VK2NBT, VK2NJM/P, VK2NAW, VK2APF, VK2APF/P."



Don Richards VK2NFF showing expertise on CW.

Don VK2NFF has contacted most of the stations involved and has asked that his thanks be passed to all stations concerned for their assistance and support. He also stated that many operators commented on the ability of CW to be read and understood under conditions when voice communication would have been time-consuming and possibly inaccurate. Also, of course, following the microphone failure, communication would not have been possible without the use of CW.

From Don Richards VK2NFF. ■

IARU NEWS

The main item of news this month is the overseas visit by the Federal President, David Wardlaw VK3ADW, during February to attend, by invitation, a meeting of the IARU International Working Group in Geneva.

This visit will enable those attending the IWG to see something of the large ITU Conference — in this case the Aeronautical Mobile Conference. This will be valuable for those who will be attending WARC '79, including David Wardlaw himself.

Using his same flight ticket, David Wardlaw will also visit the RSGB in London, and Japan, Korea and Singapore on the return leg. Incidentally, it is reported that the number of licensed amateurs in Japan is now 465,000.

Some interesting VHF news comes in the Jan. 1978 issue of the IARU R1 journal. The French 50 MHz beacon FX3VHF was heard twice in Eastern Canada by VE1ASJ during June 1977. A Canadian 50 MHz beacon VE1SIX is now reported to be operational. The sporadic E tests of FX3VHF were switched to TEP in August and the beacon signals were logged in October by ZE2JV some 8137 km to the South. The signals were also heard later by ZE1JJ. The FX3VHF beacon runs 70W RF into a stack of two 6 el yagi arrays giving an ERP of 1 kW and the frequency is now 50.104 MHz (was 50.1 MHz).

The IARU R1 VHF sporadic E propagation Co-ordinator is F8SH. He gave a talk on the subject on the occasion of the 50th anniversay of ARI (the Italian amateur radio society) as also did Dr. J. Rottger, DJ3KR. Close collaboration is being maintained with CCIR Working Group 6 at it is thought that increased amateur participation in scientific studies such as VHF ionospheric propagation research, will be one of the main assets in keeping our frequency allocations and in eventually getting new ones, such as the 50 MHz band in Region 1 (and of course 50-52 MHz in Australia — to conform with the Region 3 Amateur allocation of 50-54 MHz).

Comments were that the 1977 Summer Season seems to have seen a record VHF sporadic E activity in the European area and generally around the world. Distances of 8500 km have been covered on 50 MHz between Japan and California.

Reports on these long distance contacts have steadily increased but it is not known whether this is due to the increased number of observers or to an increase in the activity of sporadic E itself. Possibly, both apply. More research, more observations and more reports are required to detect possible recurrence patterns and to relate these to other geographical or solar phenomena.

RECIPROCITY — AUSTRIA

The fees, in Austrian Schillings, for a Class C (max. 100W) reciprocal licence in Austria are 120 for 1 month, 150 for 2 months, 180 for 3 months. Up to the end of October 1977 a total of 857 visitors' licences were issued in Austria — 755 were for DL calls, 1 VK and 3 G calls.

EME

K2UYH earned the world's first WAC for EME QSOs on 430 MHz (his VK contact was VK2AMV). Since then six others have done so, W1JR, SM5LE, PA0SSB, K3PGP, I5MSH and VE7BBG. Experiments

are now being carried out on the 1215 MHz band but although this band may turn out to be even better suited to EME QSOs activity is extremely low.

10 Mx BAND BEACONS

From the same issue of the R1 journal comes a list of 10m beacons which may prove interesting to those who are keen on 10 metre contacts.

Frequency kHz	Station	Remarks
28202.5	9J2BBB (Lusaka)	05.00-06.00Z 15.00-16.00Z
28205	DLOIGI	
28207.5	N4RD	Englewood, Fla.
28310	3B8MS	
28213.5	ZD9GI	Gough Island
28215	GB3SX	Sussex
28217.5	VK2WI	(planning)
28220	5B4CY	
28222.5	YU?	(planning)
28225	VE3TEN	Ottawa
28227.5	FX3TEN	(planning)
28230	ZL2MHF	Mt. Clinie
28232.5	VP8?	Falkland Is. (planning)
28235	VP9BA	
28237.5	LA?	(planning)
28240	PY1CK	Rio de Janeiro
28242.5	ZS?	(planning)
28245	A9XC	Bahrain
28247.5	EA2OIZ	Unofficial

250, 260, 265 and 270 in planning for W, VK5, VK6 and VK8.

Also listed are 118 beacons in Region 1 on other bands — 2 on 70 MHz, 57 on 2 metres, 34 on 70 cm, 17 on 1296 MHz, 3 on 2304/5 MHz, 1 on 3456 MHz and 4 on 10.1 GHz.

ODDMENTS

Sundry lists and pieces from Worldradio of Dec. 77. — Ron W8ILC has worked over 180 countries on SSB, mainly on 20 and 80m bands, using a 1 watt, yes 1 watt, rig into a 4 el. 20m monobander and a simple 80m antenna.

Harry Dannals W2HD, President of the ARRL, made these comments about WARC 79 in a Convention speech: "Our challenge is that we must make sure that amateur radio is held in high esteem. We must make sure that people know of our good works. It is necessary for us to tell our story. Don't hide what we do. Tell it loud and tell it often. The people of this nation should know of and have pride in Amateur Radio".

In that newspaper's Dx column is reproduced the Russian morse code and phonetics for those interested in copying Russian CW or SSB.

The list is like this:

English letter (morse the same)	Russian phonetic
A	Anna
B	Boris
C	Tsaplya
D	Damitri
E	Yelyena
F	Fyodr
G	Gregori
H	Khariton
I	Ivan
J	Ivan Kratki
K	Konstantin
L	Leonid
M	Mikhail
N	Nikolai
O	Olga
P	Pavil
Q	Shchuka
R	Raman
S	Semyon
T	Tetiana
U	Uliana
V	Zhena
W	Vasili
X	Znak
Y	Eri
Z	Zenaida

The five additional CW letters in Russian are: Dash Dash Dash Dot — Chelaryek (Ch), four dashes — Shura (Sh), dot dot dash dot dot — Eh — Eborotnaya (E), dot dot dash dash — Yuri (YU) and dot dash dot dash — Yakov (YA). For the SSB enthusiast the Russian numerals are given as 1 — Edinitsa, 2 — Dvoyka, 3 — Troyka, 4 — Chetryorka, 5 — Pyatka, 6 — Shestyorka, 7 — Semyorka, 8 — Vosmyorka, 9 — Devyatka and Zero — Nol. Since we do not possess cyrillic typefaces it is not possible to reproduce the 31 Russian letters but beware, many of them differ from the English.

NEW IARU MEMBER

ORARI, the Indonesian amateur radio society, has been elected as the 99th member society of IARU. ■

LETTERS TO THE EDITOR

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

The Editor,
Dear Sir,

WANTED KNOWN.

Would you drive 15 miles to save yourself $15? 572B/T160L are $40 Tax Exempt in Melbourne, Sydney and Adelaide. 6JS6C, 6KD6 and 6146B are all 30-40 per cent cheaper than the current advertised price charged by Amateur Equipment Retailers. Free enterprise breaks monopolies and brings prices down to the true level. Write to VK3OT at PO Box 414, Hamilton, about these and other spares for amateur gear available for the asking from reputable supply houses in Australia.

Using service, mateship and playing on your ignorance, Amateur Retailers are charging you anything from 40 to 100 per cent above the retail price you can pay for spares. As an amateur and experimenter, you are allowed Tax relief on ALL spares used for transmitter purposes by a simple statement and your call sign on the bottom of the invoice.

The retailers you are dealing through no doubt get them for that price but add their exaggerated percentage to cover their costs.

Cut the crap. An FL2100b linear retails for $510 in Sydney at present from a little known outlet. Here in Victoria it's now $578, having just gone up by another 40-odd dollars.

Since 1976, when a similar device was $400, they have gone up by $178 which is nearly 50 per cent. Giving our rate of inflation and the devaluation at a maximum, the extra percentage shows, and every increase is passed along to the amateur not withstanding.

It's about time we all jacked up and stopped buying from the locals for the reasons above.

73, Steve Gregory VK3OT

[Retailers have to live, pay taxes, rents, power and the lot — caveat emptor is the name of the game.—Ed.]

Royal Flying Doctor Service of Australia
(S.A. and N.T. Section) Inc.

The Editor,

January 16th, 1978

Dear Sir,

May I refer to an article appearing under the heading C.A.R.E. in your January 1978 issue which described in rather dramatic style a fairly routine accident at Marla Bore. Stirring stuff indeed!

While it is not my intention to denigrate the assistance rendered by VK2IK I must take him to task for his insinuation of slackness on the part of the Royal Flying Doctor Service Base at Port Augusta suggested by his words that they were "just not on watch".

Perhaps a few facts may be of some interest to the amateur fraternity and also anyone contemplating travel in the more remote areas of the Outback.

1. Bases do not keep a continuous manned watch on assigned frequencies but conduct medical, telegram traffic and ancillary services such as School of the Air at scheduled times during the day on specific frequencies. Details of schedules should be obtained from the various Bases.
2. All Bases can be alerted 24 hours per day 7 days per week by the transmission of a suitably encoded SSB signal for a minimum period of 10 seconds. Usually different Day and Night alarm frequencies are used. The successful triggering of the Base decoder is indicated by the automatic transmission of a netting tone on the alarm channel and at the same time control of the Base equipment is extended to personnel on stand-by.
3. The various RFDS Bases throughout the Commonwealth provide communication for over 7,000 fixed and mobile Outposts. In general normal commercial operating procedures are used, including the international phonetic alphabet, upper-sideband SSB in universal. Some frequencies are shared by widely separated Bases and the 2020 kHz "natter" channel is common to all RFDS networks. Procedures are subject to strict regulation and frequently monitored by the Radio Branch, do not expect the operators to encourage rag-chewing.

Yours faithfully,
Graham Pitts VK5GE, Technical Superintendent,
RFDS (S.A./N.T. Section) Inc.

P.O. Box 92,
Colac, Vic. 3250

The Editor,

2nd January, 1978

Dear Sir,

One reads with interest, and possibly some measure of amusement, the two letters submitted by Mr. Leonard J. Shaw as published in the January issue of AR.

The letter from VK4KU in the same issue provided a perfect counterveiling viewpoint, and one trusts Mr. Shaw has read it.

In his letter to the Editor, the above gentleman used the expression "like it or not" on four separate occasions; and this would seem to symbolize the whole approach of the CB movement. It is undeniable that thousands of people bought and operated 27 MHz gear when it was completely illegal to do so. The travesty of Government which permitted this situation to go unchallenged is now expected meekly to comply with demands for the 27 MHz band in perpetuity, etc. One hopes not; and if the Radio Communications Act due to be brought forward this year is implemented, some measure of discipline may be restored to our use of the airways.

Mr. Shaw asks whether Mr. Yates "knew the difference between a 3rd harmonic and E major" during his early interest in radio. Possibly he did not, but the tremendous difference is that Mr. Yates had to demonstrate that he indeed did, and know a great deal else also, before he was issued with a licence and allowed to own and operate transmitting equipment.

Most of us appreciate that not all CBers are tarred with the same brush; and that amateur ranks may well be reinforced in future from among the more responsible CB enthusiasts. But from my own point of view, my observations to date strengthen my belief that 60 per cent of the CB operators belong to the same fraternity which causes most of the carnage on the roads; and who bring the same reckless and irresponsible approach to their CB operations. What does it matter to them that they cause endless TVI and other interference? What do they care for laws and regulations which don't suit their book? The answer is that they "couldn't care less" and therein is an answer to Mr. Shaw when he suggests we "get off our backsides and help".

Any CBer who wishes may take the Novice exam, and any of them seeking help to achieve this end would certainly obtain it.

But it is unrealistic to expect help for people who consistently disregard the rights of others, who flagrantly breach the law, and who, all round, do not appreciate the fact that they are the only people who have made available to them a scarce and precious resource, namely space in the radio spectrum, without first having to submit to the discipline of study, and qualify themselves by examination.

The foregoing has not mentioned the snide encouragement of illegality by some importers and retailers of equipment. It was they who orchestrated the whole cacophony in the first instance, by widespread advertising of CB equipment while its use was still illegal. Now, they embark on advertising designed to tempt the ignorant and irresponsible into further lawbreaking, which will ultimately bring CB into greater disrepute than they have already earned for it.

Mr. Shaw avers that to refuse to accept such advertising breaches the law, and that it is the

task of Government to move towards prohibition.

Yet when the Government produces an RB14, some sources advise that its provisions should be ignored where they run counter to individual wishes.

You can't have it both ways.

D. C. Stalker VK3KJ. ■

P.O. Box 81,
Albion, Qld. 4010

The Editor,

18th January, 1978

Dear Sir,

I write drawing your attention to an error which appears in the footnote to an article on the subject of 1 K serial memory for RTTY by Henry VK4ZAP, which appeared in January AR.

The material referred to in the note was available from me, but at a cost of $5 not $50. Only 50 copies were printed and stock is now exhausted; no re-print of the data is anticipated.

Norman Wilson VK4NP. ■

5 Kilborn Court,
Kilsyth, 3137

The Editor,

18th January, 1978

Dear Sir,

I attach hereto a letter which I have forwarded to the various persons listed below, and a copy is forwarded to you for possible attention by the Institute.

I feel that this is a deplorable situation that exists at present, and as stated in the letter, is encouraging "Piracy" within the Amateur Bands. It is a matter which, I feel, may be of interest to, and worthy of attention by, the Institute.

Yours faithfully,

P. D. Greenham.

Copies of attached letter forwarded to:—

(i) Mr. R. Crowe, Superintendent of Postal and Telecommunications, Melbourne.
(ii) The Editor, "Melbourne Age" newspaper.
(iii) Local Member of Federal Parliament.
(iv) Secretary WIA.
(v) The Editor, "Amateur Radio".

Dear Sir,

"The Postal and Telecommunications Department has an examination twice yearly for 'Novice Amateurs'. This is a series of examinations covering Basic Radio theory (1 hour), Regulations regarding Amateur Radio (½ hour) and the sending and receiving of Morse Code at a rate of 5 words per minute. After notification from the Department that one has passed the three examinations, one then applies for a Licence to operate an Amateur Radio Station.

I sat for the Examination in October 1977, and was notified of my success on 21/11/77. I applied (and paid for) my Licence to operate on 23/11/77, after personal attendance at the Department's office on that date. At that time I was informed that because of the workload imposed on the Department with Licensing of 'CB' radios, that a delay of four to six weeks would exist before the issue of my licence.

On the 14th January 1978 I caused enquiries to be made at the Department, as no licence had been received and the following facts were explained to me:—

(a) The Government ceiling on Commonwealth Staff has depleted the actual staff at the Department.

(b) Overtime work by Departmental workers has been banned.

(c) That the workload of the Office Staff has been increased considerably since the Licensing of 'CB' Radio.

(d) Workload at the present time is overtaxing the Staff, and they are working as best they can under the circumstances.

(e) That the present delay in Amateur Licence issuing is 14 weeks.

It appears to me unusual that the issue of an Amateur Licence, or piece of paper with a Call sign written on it, can take fourteen weeks to ferret its way through the obvious inevitable red tape system of Government Departments when, from information received from New South Wales, many amateurs in that State received their Licences before Christmas. That Victoria has a more hectic time with 'CB' and other duties than New South Wales seems to me to be ludicrous, to say the least.

Whilst I can (to a degree) appreciate the frustration of staff within the Postal and Telecommunications Department operating under a heavy workload, I wonder at the actions of the Government and indeed the Department in basically encouraging "Piracy of the Air Waves" on the Amateur Bands, as has occurred on the Citizen Band Radio spectrum.

I now know the feeling of frustration and annoyance when, after attending Night School for six months to learn Radio Theory and sitting for, and passing, the required examinations to qualify for an Amateur Licence, then the purchasing of equipment with which to operate from, that all I can do is sit and look at it because of a red tape 14 week delay in Licence Issue. A Shooter's Licence can be obtained immediately after a test and examination, so why the fourteen week delay for an Amateur Radio Licence?

Surely this situation is such that in time 'Piracy of the Amateur Radio Bands' will be second only to that seen on 'CB' today, with only 30 per cent of operators licensed. This matter must be brought to the Government and public notice in order that Staff can be supplied to the Department and, in fact, the Department itself in Victoria be made more efficient to complete the issue of licences in a period somewhat less than the present fourteen weeks."

P. D. Greenham. ■

25 Berrille Road,
Beverley Hills, 2209.

The Editor,

25/1/1078.

Dear Sir,

I wonder whether you would like to print under "Dear Editor" the enclosed translation of a letter which we may consider as an addition to the "IARU NEWS" on reciprocal licensing printed in AR January 1978, page 25-26.

It is nice to see that the DLs have found so much positive understanding and support at the official level.

vy 73s

Hans F. Ruckert VK2AOU.

TRANSLATION

Letter from: Deutscher Amateur Radio Club EV. 12/1/1978.

"Dear OM Ruckert VK2AOU,
Thank you very much for your letter of 9/9/1977. My reply was delayed due to discussions with the Postal Department, the results of which I wanted to include now.

The question of guest licences for visitors to Australia was actually not so much the point of our last inquiry, but much more the general recognition of amateur licences issued by the Federal German Repblic. This question arose several times in connection with amateurs migrating to Australia.

You wrote in your letter that amateurs staying longer than 12 months or who migrate to Australia have to repeat the complete identical licence examination, this means that the examination has to be conducted in English.

There are now quite a range of country to country reciprocal agreements, which were concluded between the Federal German Post Office and the national offices of other countries, which led to reciprocal acknowledgement of respective amateur licences. During a discussion with the authorised officials of the FTZ (West German licensing authority) it was confirmed that Australian amateur licences are fully recognised (as legally equal to German licences). This is so, if Australians stay longer (over 12 months) or permanently in West Germany, e.g. Australian licence holders will obtain the German licence without having to pass an examination. This ruling stands even now without a reciprocal licence agreement between these two countries. One may say that the West German Postal Authority has already done its part of a reciprocal licence agreement, and there is nothing else for them to do in this case.

As you know there are a large number of foreign radio amateurs in the Federal Republic of West Germany who came from many countries. They received a German licence immediately, based on their licence of their home country, without having to sit for an examination. Some of these people have now lived in Germany for 10 years or longer. They are the full licence holders with DJ0 calls. DC5 calls are issued for the C-licence (limited VHF licence).

It would definitely be considered a very appreciated gesture of the Australian authorities if radio amateurs who migrate to Australia could obtain the equivalent amateur licence without having to sit for an examination again.

Should the Australian authority wish to enter into an official reciprocal licence agreement, the West German Federal Postal Department would be very happy to do so. Perhaps you may have the opportunity to talk to OM Dodd again with regard to this matter, and the Australian Telecommunications Department may be informed about the West German position, too, and asked to make a move.

I thank you very much for your efforts.

vy 73

Karl Diebold DJ1BM (Manager DRAC).
Philip Lessig DK3LP (1st Vice-President DRAC).

Australian amateurs wishing to operate in West Germany (DX or relay) should ask for a licence application form by writing (air mail) one month prior to their departure to:

DARC — International Affairs,
3507 Baunatal, 1
Lindenallee 6
West Germany. ■

The Editor,

12th August, 1977

Dear Sir,

I am writing on behalf of the Hunter Branch of the Wireless Institute of Australia, regarding the AR Special 1977 Federal Convention Report which appeared in AR for July and in part the item regarding the 70 cm UHF Band Plan.

I feel that members of the WIA and interested persons should be aware that the Hunter Branch did submit through the N.S.W. Division of the WIA, an Agenda item regarding the original 70 cm Band Plan as published in the Mini Bulletin February 1976, however, the Hunter Branch feels that this present Band Plan is unsatisfactory to the present and future 70 cm Tranceivers which are currently operating in Australia.

Currently in the Hunter Branch, there is a number of Standard Radio of Japan Transceivers, ICOM IC31 Transceivers and Seiwa Transceivers, the performance of which is adjusted to operate between 432 and 435 MHz. The Hunter Branch expresses the wish that the input and output frequencies of proposed 70 cm Repeaters should be reversed, making the input to the Repeater high and the output low where the Receivers are tuned for maximum sensitivity and that the Main Simplex Channels should fall between 433 and 435 MHz.

A number of tests have been carried out using this equipment and it has been found that the present Band Plan is unsuitable to the present Transceiver receivers, however, the Transmitter can be moved on an operational basis from 434 to 438 MHz and the power output will drop 2 dB. One can afford the loss in power, but one cannot afford the loss in Receiver sensitivity.

The Hunter Branch therefore recommends that members closely look at the European Region 1 UHF Band Plan which is much more suitable in the operation of Simplex frequencies and Repeaters with the present type of equipment that is currently in operation. We feel that it is not too late at this stage that a long hard look should be given to the 70 cm Band before we get ourselves into the chaotic mess that we have experienced with the 2 metre Band over the last five years.

Currently there are five stations operating Simplex on the frequency of 435 MHz in the lower Hunter Valley. The Hunter Branch would be interested to hear from other areas regarding this matter.

Yours faithfully,
Rodney C. Prout VK2CN,
On behalf of the Hunter Branch.

EDITOR'S NOTE:
It is understood that this matter is currently under investigation by the N.S.W. Division Repeater Group. ■

VHF-UHF
AN EXPANDING WORLD

Eric Jamieson, VK5LP
Forreston. 5233

AMATEUR BAND BEACONS

VK0	VK0MA, Mawson	53.100
VK1	VK1RTA, Canberra	144.475
VK2	VK2WI, Sydney	52.450
	VK2WI, Sydney	144.010
	VK2RHR, Mittagong	144.120
VK3	VK3RTG, Vermont	144.700
VK4	VK4RTL, Townsville *	52 440
	VK4RTT, Mt. Mowbullan	144 400
	VK4RBB, Brisbane	432.400
VK5	VK5VF, Mt. Lofty	53.000
	VK5VF, Mt. Lofty	144.800
VK6	VK6RTV, Perth	52.300
	VK6RTU, Kalgoorlie	52.350
	VK6RTW, Albany	52.950
	VK6RTW, Albany	144.500
	VK6RTV, Perth	145.000
VK7	VK7RNT, Launceston	52.400
VK8	VK8VF, Darwin	52.200
JA	JA2IGY, Nagoya	52 500
KG6	KG6JDX, Guam	50.110
KH6	KH6EQI, Hawaii	50.104
ZL1	ZL1VHF, Auckland	145.100
	ZL1VHW, Waikato	145.150
ZL2	ZL2MHF, Upper Hutt	28.170
	ZL2VHP, Palmerston North **	52 500
	ZL2VHF, Wellington	145.200
	ZL2VHP, Palmerston North	145.250
	ZL2VHP, Palmerston North	433 250
ZL3	ZL3VHF, Christchurch	145.300
ZL4	ZL4VHF, Dunedin	145.400

* Ian VK4ZIG advises the Townsville beacon is again operating but this time at a temporary location on 52.440. So far no reports of it being heard.

** The ZL2VHP beacon is certainly still operating on 52.500 despite having been advised in writing it was on 52.250! (Reported in these columns last month.) I have heard it myself on 52.500 and so have a number of other operators, so the frequency stays at 52.500 unless more positive advice is received from New Zealand, after all, there is nothing much more positive than actually hearing the beacon here in VK5 on 52.500!!

TWO METRES AND UP

Instead of the usual launching into six metres for this time of the year, this month we will take a look at 144 MHz first. Great things have been occurring there and also on 432 MHz, so I asked David VK5KK to write me a summary of happenings because he has more opportunities of being around on the bands during the summer than I. However, I can support him directly in most of what was achieved, at least on 2 metres, since the rather dramatic upgrading of that band at this QTH. Anyway, this is David:

"On 10-12-77 a tropospheric opening occurred between Adelaide and Albany, signals peaked on 2 metres around 1200Z. VK5KK worked VK6XY, VK6WG and VK6KJ with signals between 5 x 9 and 5 x 9 plus 20 dB. The Albany beacon on 144.500 had been heard since 2300Z with signals peaking to S9 at 1200Z. At 1245Z VK6XY was worked on 432.1 MHz peaking 5 x 9 plus 10 dB. At 1300Z VK6WG was worked at plus 20 dB. At the same time VK6WG fired up a signal on 1296.12 MHz, and worked him crossband, his signals averaging 5 x 2 with quick QSB. Receiving equipment at VK5KK consisted of a 3 foot diameter parabolic dish at 5 feet above ground. A diode ring mixer converter mounted at the feed with a TS700A receiver as IF on 144 MHz. The distance is 1180 miles, some 10 miles further than the present two-way record. Signals remained until the morning (2230Z) and faded out.

"On 14-12-77 a tropospheric opening occurred into VK3 and VK7 on 2 metres. Also under the same conditions VK3OT and VK3BEH were worked on 6 metres at 5 x 9 signals (360 miles). Also VK3ZBJ and VK3YII in Melbourne were heard working the south-eastern VK5s. VK3OT, VK3AXV and VK3BEH were worked on 2 metres. At 1325Z VK7ZIE (Devonport) was worked on 2 metres, signals both ways 5 x 5. At 1350Z VK7ZAH (Launceston) also worked 5 x 5. Distance 665 miles. VK7ZIE again worked at 1408Z 5 x 6.

"On 15-12-77 the conditions prevailing the previous night still existed, though not as good. At 1103Z worked VK3BEH then VK3AXV, VK3OT and a cross-band (52—144 MHz) contact with VK3AXV. All signals between strength 4 and 9.

"On 16-12-77 a very weak opening occurred between Adelaide and Albany on 2 metres. Worked VK6XY at 1235Z at 5 x 2 peak at 1246 and disappearing 1259Z.

"On 26-12-77 a short opening between Adelaide and Albany via what was probably sporadic E. At 0435Z worked VK6BE at 5 x 6 both ways but by 0440Z signals disappeared. The Albany beacon on 144.5 remained at S1 until 0830Z. At the same time of the opening, six metres from Albany were very strong. General weather conditions and the pattern of the signals did not seem correct from later observations for it to be a tropospheric opening.

"On 1-1-78 a tropospheric opening occurred into VK3. At 0845Z worked VK3BEH then VK3OT and VK3AXV on 2 metres. At 1190Z worked VK5NC (Mt. Gambier on 432.1 with 5 x 9 signals (260 miles). At 1320Z worked VK3ZBJ 5 x 6 both ways on 2 metres, also VK3YII at 1345Z. At 1405Z worked VK3ZBJ on 432.1 cross band to 2 metres, signals on 432 5 x 1, 420 miles. At 2013Z worked VK3OT on 144.1.

"On 2-1-78 at 0745Z worked VK3AXV then VK3OT, VK3ZBJ and VK3ZQV on 2 metres. At 0900Z worked VK3ZQV on 432.1 with signals peaking 5 x 9 plus 10 dB. Power used at both ends 10 watts PEP. Distance 530 miles completely over land. Also worked VK3ZBJ (5 x 4), and heard VK3YFU in Melbourne, 5 x 1. Also worked by VK3ZQV were VK5ZPW and VK5MT. VK3BIY/P (on Mt. Skene, 80 miles NW of Melbourne, 5155 ft. a.s.l.) worked 5 x 6 on 144.1 and heard VK5KK on 432.1 at readable strength but no contact. Other stations contacted from VK5KK QTH were VK3ZDW, VK3CI, VK5ZCH, VK3YII, VK3LT, VK3VL, VK3BV, VK3ZEF and VK3BEH. Also heard was the Gippsland repeater VK3REG at 1100Z to at least 1430Z, distance over 600 miles.

"On 8-1-78 the band opened to Albany on 2 metres. Signals also appeared on 432 and 1296 MHz, and were favouring Adelaide and points further south. The first two-way contact on 1296 MHz for the season occurred between VK5QR and VK6WG with good signals both ways. VK4NY was also heard in Albany, but not worked.

"On 10-1-78 band open to Albany with signals mainly favouring further south. VK6XY only station worked 5 x 2 both ways.

"On 11-1-78 the band was still open to Albany with stronger signals than the night before. At 1000Z VK6KZ/P (at West Cape Howe, 19 miles west of Albany) successfully worked VK3ZBJ (Frankston) on 432 MHz at reasonable strength after first contacting on 2 metres. Distance 1526 miles, which appears to be a new two-way world record for 432 MHz. 1296 MHz was tried unsuccessfully at both ends. Worked by VK5KK on 2 metres were VK6WG and VK6KZ/P, both 5 x 2.

"On 12-1-78 the signals had reached their peak, having dropped out of the VK3 area. Worked on 2 metres were VK6WG, VK6KZ/P, VK6BE and VK6KJ. Also on 432 MHz worked VK6WG and VK6KJ, heard VK6KZ/P but not worked.

"Equipment used for the new 432 MHz record; VK6KZ/P, FT101E to solid state transverter, 10 watts output, antenna uncertain, but 13 el. used in 1976. VK3ZBJ: 80 watts PEP from solid state amplifier."

On the question of whether the contact between VK6KZ/P and VK3ZBJ becomes a world record hinges the doubt expressed overseas that the original claims for record of 2540 miles by W6NLZ and KH6UK in 1959 has not been proved, and the present listing according to QST appears to be around 1210 miles, this being so, then the recent contact easily exceeds that distance.

When one looks at the map of the world, and I hope you will do so as the result of my next comments, there are few if any places in the world situated along the favourable west-east path which have many chances of extending existing records, other than that presented by the path between VK6 (mainly at Albany) and extending firstly to VK5, then on to VK3, VK7 and finally ZL. Here along the west-east path are situated amateurs of compatible nationalities, similar band usage, similar overall interests, similar power limitations, etc. Overseas contacts need to be made between stations of different nationalities, and over considerable distances, but in many cases with no activity allowed at one end. Whilst we have been rather slow to take up the challenges offered, I feel the future is a great one for VK and/or ZL to wrap up world records on 432, 1296, 2304, 3300 and 10000 MHz. On present standings. 50 or 52 MHz distance will be hard to beat, and 144 MHz looks to have been extended to 5000 km already, and will no doubt go further, and it may be difficult for VK to participate in this one, as there seem to be no areas of real 144 MHz interest other than perhaps to Japan which will exceed 5000 km. Anyway, whatever happens in the Stakes for world records, there is little doubt the amateurs will make them, and VK could well be sharing the prizes! It's up to you boys in Albany, I fear, to hold up the starting end, where the signals finish is anyone's guess, but you will surely share the contacts.

FIRST 144 MHz OUT OF VK8

On 16-1-78 at 0203Z VK5ZHS/8 in Alice Springs, N.T., worked VK4AZE in Bundaberg on 144.1 MHz SSB, and later worked VK2BXT (Moree) and VK2YDY, also Moree. VK5ZSH/8 used an IC202 into a five-eighth wavelength ground-plane! Furthermore, signals were 5 x 9 plus! At 0314Z VK5ZSH/8 worked VK2BXT on 2 metres FM simplex using a 2 watt hand held Ken. KP202 transceiver, signals 5 x 5, distance 1100 miles. At 0230Z VK5ZSH/8 heard a short call from VK5ZWR in Adelaide on 144.056. The return call (attempt) was only heard by VK5KK and lasted a few seconds. Most probable explanation is a small amount of spill-over, distance being some 250 miles closer.

VK8ZGF also operated on 2 metres SSB and FM, using an IC202 into a QQE06/40 running about 100 watts into 10 el. yagi at 40 feet. He worked a total of 6 different stations, VK4ZRQ (Brisbane, 1200 miles), VK2YDY and VK2BXT (both Moree and 1100 miles), VK4AZE (Bundaberg, 1150 miles), VK4ZIT, Brisbane, and VK2ZAY, near Gunnedah, 1200 miles.

It was predominantly a strong east-west type opening operating at around the maximum hop distance for Es. The night before the VK3RTG beacon on 144.7 MHz was copied in Sydney and Brisbane. Six metre conditions all over the continent were unusually good. Many stations were vainly trying to make the distance from both the southern States and also Darwin and Kalgoorlie, but no other contacts apart from the above occurred. From general comments it seemed that after 0230Z (interesting?) the only signals heard strongly were from northern VK2, the band closing at 0410Z.

The opening was discovered by chance after a Bundaberg amateur who works at the Bundaberg aerodrome rang up VK4AZE with the suggestion it may be worth a look on 2 metres towards Alice Springs since Bundaberg Tower was copying Alice Springs tower on 122.1 MHz at good strength. Hence after great confusion on the 6 metre calling frequency (some will never learn to QSY) VK4AZE managed to get through to VK5ZSH/8 and eventually work on 2 metres.

It is the first time VK8 has worked out on the State on 2 metres via terrestrial propagation. A rather unique occasion, not only from the point of view of the first VK8 QSO, but unusual Es conditions, perhaps the best for at least 10 years! It would then come as a surprise to say that up until 16-1-78, Es on 2 metres had been extremely poor and as far as 6 metres is concerned a year well below average, perhaps, from the views of several people, the worst in six years!

On 17-1-78, the day after, both 6 and 2 metres were extremely quiet. This, as in the past years, is fairly typical, in some cases the band does not recover for a week or more. Usually conditions in the past few years have built up on 6 metres until finally bursting on to 2 metres. The peak would only last a period of several days then suddenly die.

Again my thanks must go to David VK5KK for the resume of happenings for that rather rare

occasion of VK8 2 metre DX — maybe it will travel south next time!

NEWS FROM VK6

I was pleased to receive a lengthy letter from Walter VK6KZ, who normally resides in Perth but makes an annual pilgrimage to Albany to bolster the VHF operation from that area. The following notes are taken from his letter and are interesting because they outline activity in VK6 in general and Albany in particular.

"Activity outside of Perth is fairly limited on 144 and 432 MHz SSB. However, weekly skeds with Wally VK6WG in Albany (approximately 400 km) on 144 MHz are usually successful, with Bernie VK6KJ and Aub VK6XY occasionally joining in. Bob VK6BE is not well situated for QSOs to Perth. 432 MHz is a long way down over the same path. Fred VK6MZ at Busselton (160 km) is a regular on 144 during these skeds with Albany on Saturdays (0700 WAST).

"Best contacts from Perth on 144 and 432 have been Colin VK6ZCC in Carnarvon (800 km), who has worked a number of Perth amateurs including Don VK6HK and Phil VK6ZKO. Others have made it only on 144 MHz. The most intriguing fact about 144 MHz DX is that the Perth/Adelaide path has only been worked twice. The late Rollo VK6BO worked VK5GL on 30-12-51 and VK5QR on 9-2-52. Despite all the improvement in equipment and rise in activity these remain the only two occasions confirmed two-way contacts occurred. Reports of hearing beacons exist but nothing else.

"In Perth activity on 1296 MHz is slowly increasing, with myself VK6KZ, Don VK6HK having two way capability, and others including Phil VK6ZKO and Frank VK6FW and Bob VK6ZFY moving in that direction. As far as I know no one is pursuing activity in bands higher than 1296 although Don VK6HK is muttering about 2304.

"Don VK6HK, by the way, deserves special mention for his tower. The 20 m crank up tilt over tower is loaded for 160 metres, and supports wire antennae for 80 and 40 metres. There is a tri-band beam for 20, 15 and 10, separate beams for 52, 144 and 432 MHz, and a corner reflector for 1296! (. . . What, no FM? . . . 5LP.)

"In Albany Wally VK6WG is the home constructor par excellence! Not only is he skilful electronically, but his lathe work and mechanical construction are a tribute to fine craftsmanship. He electroplates most of his VHF/UHF chassis and inductances as well as antenna feeds with silver. Wally's current project is 2304 MHz and has a 2 m dish for that band as well as the 1 m dish for 1296. Showing his ingenuity is the fact that his basic exciter for the 2304 chain is that famous standby the 522.

"Albany is something of a mecca for VHF/UHF enthusiasts in summer. Ross VK6ZED, Steve VK6ZBW, Phil VK6ZKO have been frequent visitors as well as myself. This year I added 1296 Tx/Rx capability with a 1 m dish. Highlights of the 1977-78 season from Albany were undoubtedly the 144 contacts at 1316Z on 8-1-78 with Michael VK3ZQV 128 km east of Melbourne for what should be a new W.A. record for 144 MHz, and the 432 MHz contact to Les VK3ZBJ on 11-1-78 at 1017Z with signals 5 x 3 both ways. I was operating from Torbay Hill about 20 km west of Albany. Also worked on 144 SSB over the period 8-1-78 to 12-1-78 were VK3OT, VK3AFW, VK3ZDW, VK3AMH, VK3ZY, VK3AAV, VK5MC, VK5NY, VK5RO, VK5SV, VK5ZPS, VK5QR, VK5RP, VK5MT, VK5ZK, VK5ZWR, VK5KK and VK5ME.

"I would like to comment that the Ross Hull rules must have been written by HF enthusiasts. The idea of call areas to distinguish points scores shows complete lack of understanding of VHF. VK6 amateurs can NEVER aspire to win the Ross Hull trophy. Despite enthusiastic efforts by particular individuals in the past only once has the trophy come to W.A., to the late VK6BO in the days when the contest was 50 MHz only. I would like to see the points per distance as the main basis for scoring. I would also like to see separate national awards for each of the VHF/UHF/SHF bands as an alternative to (or additional to) the lumping together of all bands. This would encourage more activity on the lesser used UHF and SHF bands. Finally, I support you strongly in your efforts to get 50 to 52 MHz back. I see no reason why this frequency band could not be shared with commercial services on a non-interference basis as are bands such as 7 and 1215 MHz."

Thank you, Walter for your interesting letter. I support you in all your comments in the last paragraph, as I am sure most others will, particularly in regard to the Ross Hull scoring!

A letter from Roger VK2ZTB encloses a clipping from Wireless World November 1977, which reads, "The long rumoured Russian intention of setting up an amateur satellite system ('RS') has now been confirmed with the registration by the USSR of details with the ITU. RS will be based on three of our satellites carrying active transponders (uplink 145.8 to 145.9 MHz, down link to 29.3 to 29.4 MHz) with 'maximum' communication distances of 6000 km. The intended orbit has an inclination of 82 degrees and will be circular at about 950 km height with a period of 102 minutes. 144 MHz transmissions should be possible with powers of about 10 to 15 watts to aerials of 10 to 12 dB gain. The system is due in 1977-78 and the first launch could be as early as October.

"The next Amsat-Oscar launch may be February 23, 1978. The ARRL has recently introduced a 'DXCC' award for Oscar operation. Pat Gowen G3IOR, with over 90 countries worked through Oscar, appears nearest to qualifying."

Roger also reports that both the beacons and repeaters in the Sydney area are to be upgraded, the repeater is in the process of complete reconstruction. Th 6 metre beacon has been rebuilt, and now runs 20 watts output and has an A50-12 in the final, which will later be lifted to 50 to 60 watts output. A 28 MHz beacon is under active construction, also a 432 MHz beacon.

Graham VK8ZCJ sends along his usual letter and remarks on how thrilled he was to work Ken YJ8KM for the first time, making it the 9th country for him on 6 metres. Signals were up to 5 x 5. Jeff VK8ZGF in Alice Springs also worked Ken.

Graham said when compared to last year conditions for 1977-78 had been quite poor in Darwin, despite having worked VK1 to VK8 inclusive, JA1, 2, 4, 6, 9 and 9 plus ZL3 and YJ8. He believes ZL TV was heard about twelve times in Darwin but only ZL3 worked.

On 30-12-77 Graham worked Ken VK6ZFQ on Koolan Island, a distance of about 530 miles, which is short skip for Darwin. Ken told him he was watching TV from Indonesia on our Channel 10 (210.75-215.75) and that it had also been available nearly every night during October at solid noise free strength for hours on end, in full colour. There is apparently a two metre FM net in Djakarta, where the TV signals come from, but no contacts have been made. Ken works Ron VK6FM in Derby nearly every night on two metres SSB over a path of 80 miles. Thanks, Graham.

I have received a letter from Ian VK4ZIT, who supports the move to regain 50 to 52 MHz although he points out it will be of little use to him, being only 2 to 3 miles from Channel O. He also reports retiring the old 5 element yagi used on 6 metres, and replaced it with a sterba curtain array for that band. At the moment it has temporarily "shrunk" to a Lazy H shape!! But the trick is that the end of this array points at Channel O, which puts the main lobes at 30 degrees and 210 degrees. Whilst not well placed therefore for JA, it is all right for VK3 and 5 and the central Pacific, and hears considerably less garbage from Channel O as a result. So it looks like the old amateur ingenuity coming to the fore again. I also note Ian is still threatening to build a linear for six metres!

Kerry VK2BXT in Moree writes to confirm news of his contacts to VK7ZAH, VK7DA and VK7JG on 2-1-78 (reported as late news last month), and also his working of VK8ZGF and VK5ZSH/8 at Alice Springs, all on 144 MHz. The fact that it pays to listen was proved when Kerry points out his contacts on 2 metres to VK7 were not pre-arranged on 6 metres, but as he always listens on 144.1 when operating on 6 metres, he heard some CW and on going back to QRZ was rewarded with three subsequent QSOs. That's the moral, boys, always monitor calling frequencies if in the shack doing other things, but if operating at least listen an another band as well.

Steve VK3OT has also written confirming again the various contacts as outlined at length at the start of these notes by David VK5KK. He also reports a good opening on 6 metres to VK3 on 15-1-78, culminating in VK4ZRF hearing the VK3RTG beacon on 144.700 at S3 at 1030Z.

3D2CM is now on 6 metres running 50 watts to 5 el. yagi from University of South Pacific. VR4DX in Honeara, Solomon Islands, willing to set up on six metres this coming year if at the end of his tour of duty in 1980 he can dispose of gear . . . requires second-hand FTV650 or similar for loan or buy — can anyone help? P29BB in Lae interested in 6 metre contacts to VK.

Steve also comments on the low level of Ross Hull activity this year, and thinks that unless the rules are changed there will be less and less participation. (Perhaps the Ross Hull contest should be turned over to me, maybe I could rejuvenate it with some constructive thinking as time proceeds . . . 5LP.)

A message from John VK5MG advises Stewart VK0SW and Graham VK0GM are at Casey Base, and Graham will be setting up to work Oscar mode A and B, and should be ready by the time you read this. He is also going to see if Graham can verify the existence of the VK0 beacon.

On 29-11-77 3GCR commenced regular transmission on 103.5 MHz FM from a station located at the Gippsland Institute of Advanced Education at Churchill. Power about 20 watts. It is intended to eventually increase the power to 1 kW and to locate the transmitter at Mount Tassie. Transmissions will be in stereo. Broadcast times are 6.30 to 11 p.m. local time . . . thanks to Eastern Zone News Bulletin.

The above station could be a useful pointer to 144 MHz operation for those within a 500 to 600 mile range of the station, this particularly when power is increased to 1 kW. I am sure the operation of the station will be of immense interest to VK5 2 metre operators.

Before I close I must satisfy Roger VK2ZTB, who in his letter said he was awaiting my synopsis of band conditions for the 1977-78 summer season. I would, therefore, have to say six metres started off fairly good over most of the country, then took a horrible flop in most areas throughout the fortnight or so leading up to Christmas, good around Christmas, then variable until the end of the year. Since the New Year there has been a considerable upsurge in interesting contacts on 6 metres, and the Es conditions generally have remained even if in a on/off basis for the greater part of January, and if I dare predict, I suggest they may go on being available in such a manner throughout February into March when I believe we might again have some good long distance conditions about the end of March to mid-April. There are enough interesting stations around now to keep the genuine six metre operators at their gear much more than in the past, that way more contacts overseas are going to be made. So, the season finished well but as of writing hasn't finished yet!

144 and 432 MHz have excelled themselves at different times, and it seems likely we will see a continuing interest in these bands as more and more stations realise you can still work a very long way on both those bands if conditions are right, and conditions are right more often than you think, it only needs some dedicated operating to get the results. So, first part of season not too good on these two bands, latter part excellent! As a matter of interest at my own QTH the Albany beacon on 144.500 was audible on 12 out of the first 13 days of January, at strengths varying from S1 to S9, path distance over 1200 miles.

Closing now with the thought for the month: "Most of us can easily do two things at once, what is all but impossible is to do one thing at once."

73. The Voice in the Hills. ■

QSP

MARITIME MOBILES — US

According to Ham Radio October 1977 amateur maritime mobile stations aboard US vessels on the high seas (not in foreign territorial waters) will be permitted from 12th September to operate on any frequency that amateurs are authorised to use in that ITU region where the ship happens to be located.

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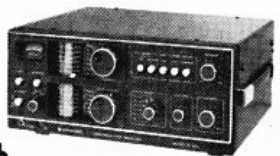

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Gain 20 dB nom. (at 7 MHz), front panel variable control
Attenuator —20 dB attenuation selectable from front panel control.
Imped. 50 or 70 ohm systems, UHF connectors on rear panel.
Switching requirements: requires external relay contact switching when used with transceivers. Remote contacts readily available from most amateur HF transceivers, including TS-510, TS-511, TS-520, TS-820, FT-101, FT-401, FT-200 and FT-201.

AMATEUR BAND TRANSCEIVERS:

NEW — NATIONAL: RJX1011 — Unique SSB/CW 160-10m transceiver with digital readout and matching speaker and external VFO.
TRIO KENWOOD: TS520S — SSB/CW, 160-10 metres, with optional digital readout.
TRIO KENWOOD: TS820S, 160-10 metres digital readout.
TRIO KENWOOD: TS820, 160-10 metres.
TRIO KENWOOD: TS700A — 144-148 MHz all mode transceiver.
TRIO KENWOOD: TS600A — 50-54 MHz all mode transceiver.
TRIO KENWOOD: TR-7400A — 144-148 MHz FM transceiver.
YAESU MUSEN: FT101E — 160-10 metres, AM, SSB, CW transceiver.
YAESU MUSEN: FT301 series, 160-10m AM, SSB, CW transceiver.

RECEIVERS:

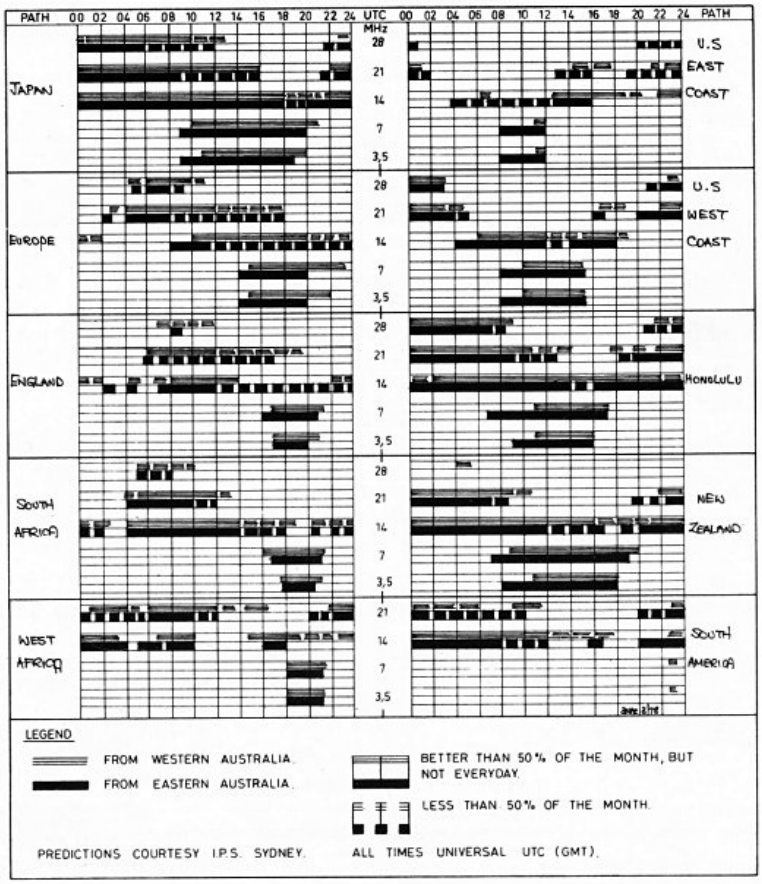
DRAKE: SSR-1 Wadley Loop receiver.
TRIO KENWOOD: R300 general coverage BCL receiver.
YAESU MUSEN: FRG-7 general coverage Rx, Wadley Loop System.
NATIONAL: DR48 (RF4800) — general coverage, digital dial, communications and BCL receiver.

ALL AMATEUR RADIO EQUIPMENT IS AVAILABLE ON 10% DEPOSIT TO APPROVED BUYERS!

Check EMONA'S most COMPETITIVE Prices!

IONOSPHERIC PREDICTIONS

Len Poynter VK3ZGP/NAC



INTRUDER WATCH

Alf Chandler, VK3LC

Before mentioning anything about my overseas trip I wish to pay tribute to my stand-in, Ivor VK3XB, for the sterling job he did in my absence, and also correct an anomaly. The January IW column was his effort and not mine as denoted. His approach to our Administration left nothing to be desired, and I am sure has accomplished much.

In November 1977 AR a letter from Mr. N. W. Lavelle VK3ABH seems to criticize the working of the IW, and I refer you all to the reply by Ivor in the February issue.

While I was away I made it my business to enquire into all aspects of the IW in both region 1 and in region 2, and I found that a great deal is being done and has been accomplished in both regions in preparation for WARC 79. This fact and the extent to which the regional co-ordinators were getting co-operation from the members of their respective societies made me quite ashamed of the meagre support that I get from region 3 members. A few WIA members in Australia send in observations, but very very few.

In region 2 the co-ordinator K6KA processes about three thousand reports monthly, while in region 1 the European societies forward their summaries to Colin G3PSM, the regional co-ordinator, who compiles a world summary each month called "The IARU Monitoring System Summary" and prefaced by "for the protection of the exclusive Amateur bands", co-ordinating all regional reports in one document averaging 16 to 18 pages with 63 reports to the page covering 3500 to 29700 kHz. These summaries are forwarded for action by all interested societies, 33 in all, and for information to another 32.

Harking back to region 2, the USA, Canada and several South American societies contribute, and the complete region 2 summary is sent to G3PSM monthly as I do for region 3. My summaries recently have dwindled to less than one page per month, a sad reflection on the ability of the Australian Amateur to realize the significance of something that may affect him in the future.

While in England the XYL and myself enjoyed the hospitality of Stan G5XB and his XYL Mary. Stan is dedicated and very active with IW affairs, and is the UK co-ordinator. He has the entree to the Home and to the Foreign Offices as well as to the BBC monitoring station at Baldock and the Telecommunications monitoring station. Alerts are handled by both of these stations, an instance being when the Russian pulse transmissions were first detected both monitoring stations took fixes to ascertain where the signals were coming from, and by comparison and co-operation pin-pointed the locations of three transmitters in the USSR. I questioned Stan about the RTTY read-outs that I forwarded to the RSGB in 1973 and he told me that he was mainly responsible for alerting through my submissions the stations TCX, the British Embassy station in Ankara, Turkey transmitting **on** 14.080 MHz and KJG in Yugoslavia on 14.285 **MHz** These stations were subsequently removed from our bands.

Unfortunately, because of a mishap to my XYL we could not visit Colin G3PSM, but I did have a lengthy telephone conversation with him. He is at the moment, as well as compiling monthly summaries as per above, busy making a computerized comprehensive summary of all reports that have been submitted over the past few years. This he expects to be of inestimable value to the delegates at WARC 79, but what a document it wil be!

It gave me great satisfaction to know that, although my reports are not up to the quantity of the other regions, they are greatly appreciated, and this alone spurs me on to endeavour to make members realize their responsibilities in this the Intruder Watch in Australia.

For handicapped amateurs either transmitting or listening, the Intruder Watch could be a very rewarding occupation. ■

VK/ZL CONTEST RESULTS FOR 1977

Thanks to all those operators who participated in last year's Contest.

From checking of overseas logs, many VK **and** ZL operators gave contest numbers to many DX stations. This really is what the Contest is about — activity of the DX stations towards VK/ZL.

Many DX stations need contacts for various awards, diplomas, etc., and besides, VK/ZL operators often pick up a rare country or two. Some DX-Peditions and other stations preparing for a major world wide contest use the VK/ZL as a practice run.

The 1977 Contest was the first with new scoring methods. I have noted comments in the logs about them, and realize that some amendments are necessary to explain them more fully.

Now a few comments from the logs:—

VK — new method does not encourage all band operation, particularly on 1.8, 3.5; 4XA: have a nice time sorting the logs; 1FT: use of prefiixes as a multiplier seems a very good idea; 4KX: not a single CW sig. on 1.8 for 18 hours, like being in solitary confinement; 4RJ: there had been no publicity before the Contest; 1FT: a lot more interest if prefixes were added, points added and then multiplied for the final all band score, otherwise operators will concentrate on one band only — 2XT; and from —

ZL — scoring by prefixes is very ambiguous; 2MM: scoring simply, systems of scoring by prefixes not all that good; 4 x 4 YY/W6 a winner, as a 4 x 4 prefix, but should be really scored as a W6 for difficulty, also VE/W, etc.; 1 AIZ: working all

bands does not seem to do much to pick up a good score, but of course is a better test of operator and station over a range of conditions.

So it seems that for the 79 Contest it will be all bands QSO points, multiplied by the total prefixes worked, which will line it up with many other contests.

The queries raised about prefixes is best answered by example: JA1, JG1, JF1, W1, WA1, WB1, UK2, UP2, UR2 equals nine (9) prefixes. This should help sort out the Russian prefixes, as well as sorting out the new call signs appearing on the bands. It should help to overcome the problems of new operators trying to place an unfamiliar call sign against a country.

ZL1AXB's score of 160,000 is very commendable and ZL3GQ for 149,713 on CW is also very good. Now, VK operators, look at the Band winners for VK and ZL. Overall the Kiwis beat the VKs, eight certificates to four, so a more concerted effort for 1978 is needed to challenge the ZLs.

As to publicity, all major overseas societies, magazines, clubs, plus an extensive list of individual operators are posted a set of rules. Indeed, one of the ways we promulgate the rules is by a copy of the next year's rules being posted out with the Contest Certificates.

Quite a few logs were re-scored, and entrants may note quite a few changes in their revised scores. To their joy, almost without exception, the scores have been increased.

Thanks to all those who entered a log, and to the many who exchanged serial numbers with overseas operators, thanks also.

The overseas portion of the results will follow.

Good luck and good DX. See you again in 79.

Neil VK6NE ■

VK — PHONE

Call	160	80	40	20	15	10	Total
VK1							
FT	—	—	16	47905	16077	1647	65645
LF	—	—	—	1764	304	—	2068
VK2							
XT	21	20	1035	101850	44965	576	148467
APK	—	—	666	60402	47560	—	108622
BJL	—	—	25	71012	6072	100	77209
WC	—	—	38829	—	—	—	38829
BAM	—	4	—	9296	1500	—	10800
ABC	—	—	—	5757	—	—	5757
VK3							
AH	—	—	9	111896	6888	—	118793
ABH	—	—	—	56511	3069	42	59622
AFW	—	1	2	4056	29400	20	33481
ANA	—	—	1	12710	494	—	13205
WW	—	—	—	10043	693	—	10736
QK	4	2	936	594	4292	—	5828
SM	—	1	1	4275	—	—	4277
AMD	—	—	—	1044	798	9	1851
[illegible]	—	—	1	225	588	165	979
[illegible]	36	—	—	—	—	—	36
VK4							
QK	—	—	680	87173	53184	247	141284
UR	—	—	—	43032	10498	2660	56190
AGP	—	—	—	2280	2552	—	4839
TE	—	2	—	2280	2552	—	4839
DO	—	—	—	—	3780	420	4220
PJ	6	5	1	3045	320	11	3389
VK5							
SW	—	—	—	25700	6480	—	32180
NGD	—	—	—	—	18630	2576	21206
IT	—	—	—	2150	—	—	2150
VK6							
II/P	—	—	1	74867	15741	2	90611
NE	—	—	192	54194	7752	4260	66398
BV	—	—	—	16908	12211	—	23119
NBZ	—	—	—	—	10258	1380	11638
VK7							
BC	—	—	—	20862	1612	—	22474
NFR	—	9	—	—	9	—	18
VK9							
XW	—	—	—	11832	168	1320	13320
XI	—	—	—	24	—	—	24

VK — CW

Call	160	80	40	20	15	10	Total
VK2							
APK	—	—	3212	50836	34866	—	88914
BJL	—	—	—	47160	968	36	48164
AQF	—	—	25	24634	2170	500	27329
VK3							
QI	—	—	52959	—	—	—	52959
QK	—	—	40680	—	—	—	40680
MR	—	—	—	—	32922	—	32922
MJ	—	30	3564	23540	858	588	28580
VF	—	—	17346	—	1248	—	18594
AMD	—	12	100	1147	100	—	1459
XB	—	300	—	—	—	—	300
RJ	60	—	—	—	—	—	60
NAY	—	4	—	—	—	—	4
VK4							
XA	15	80	2546	62928	16968	3920	86457
DO	—	—	—	—	7590	—	7590
QK	—	112	210	3588	—	—	3910
UR	—	—	—	266	—	—	266
KY	—	—	—	—	—	195	195
VK5							
SW	—	—	—	99180	4590	—	103770
MD	—	—	156	19089	2112	—	21357
QQ	—	—	—	13104	—	—	13104
BS	—	—	49	1271	180	—	1500
RK	—	—	—	210	—	—	210
VK7							
BC	—	—	280	32574	1012	16	33884
RY	6	24	1	2948	—	—	2979-
JB	—	—	—	1368	360	1	1729
VK8							
HA	—	—	—	—	—	33500	33500

ZL — PHONE

Call	160	80	40	20	15	10	Total
ZL1							
AXB	—	—	—	160080	—	—	160080
AKY	—	—	—	8541	65250	—	73791
BOQ	—	—	32712	—	—	—	32712
AIZ	—	12	5959	10668	8704	300	25643
BQD	—	1080	—	—	—	—	1080
AQO	64	—	—	—	—	—	64
AUW	45	—	—	—	—	—	45
ZL2							
ACP	—	—	4794	117872	18848	—	141514
AH	—	—	1	15700	851	—	16552
BDF	—	—	—	528	—	—	528
ZL3							
GG	—	—	34128	—	—	—	34128
ABC	—	—	—	1131	400	—	1531
ZL4							
OX	—	—	—	33750	5240	—	38990
IJ	—	4	1	10191	5616	—	15812

ZL — CW

Call	160	80	40	20	15	10	Total
ZL1							
AXB	—	—	—	83340	—	—	83340
AIZ	—	204	8500	12408	7526	4257	32895
HV	2	4	25	18100	506	—	18637
AFW	—	—	304	6867	6888	2046	16105
AUW	72	—	—	—	—	—	72
ZL2							
BR	—	20	3280	64950	12236	1	81687
AGY	—	—	—	68208	—	—	68208
LA	12	64	1216	45045	30	—	46367
AYP	—	—	14274	—	—	—	14274
ACP	—	—	8880	—	—	—	8880
MM	—	—	—	2668	9	—	2677
ZL3							
GQ	221	2244	28476	71910	45188	1674	149713
BK	—	16	1248	36850	16224	4	54342
ABC	—	—	—	800	—	—	800
ZL4							
GG	—	—	—	6534	48	—	6582
OP	—	—	—	1785	—	—	1785

BAND WINNERS — PHONE

Call	160	80	40	20	15	10
VK						
3CM	36	—	—	—	—	—
2XT	—	20	—	—	—	—
2WC	—	—	38829	—	—	—
3AH	—	—	—	111896	—	—
4QK	—	—	—	—	53184	—
6NE	—	—	—	—	—	4260
ZL						
1AQO	64	—	—	—	—	—
1BQD	—	1080	—	—	—	—
3GG	—	—	34128	—	—	—
1AXB	—	—	—	160080	—	—
1AKY	—	—	—	—	65250	—
1AIZ	—	—	—	—	—	300

BAND WINNER — CW

Call	160	80	40	20	15	10
VK						
3RJ	60	—	—	—	—	—
3XB	300	—	—	—	—	—
3QK	—	—	40680	—	—	—
5SW	—	—	—	99180	—	—
2APK	—	—	—	—	34866	—
8HA	—	—	—	—	—	33500
ZL						
3GQ	221	2244	28476	—	45188	—
1AXB	—	—	—	83340	—	—
1AIZ	—	—	—	—	—	4257

CONTESTS

Kevin Phillips, VK3AUQ

Box 67, East Melbourne, 3002

CONTEST CALENDAR

March

4-5	ARRL DX Phone Contest
4-5	YL-OM CW Contest
11-12	Commonwealth Contest
11-12	Trieste DX Contest
18-19	ARRL DX CW Contest
25-26	CQ WW WPX SSB Contest
25-27	BARTG RTTY Contest

April

1-2	Polish "SP" CW Contest
1-2	Tennessee QSO Party
1-3	ARCI QRP QSO Party
8-9	Swiss "H22" Contest
11-12	DX to W/VE YL CW Party
15-16	Polish "SP" Phone Contest
15-16	Common Market Contest
22-23	Bermuda Contest
22-24	ZERO District QSO Party
25-26	DX to W/VE YL Phone
29-30	Dutch "PACC" Contest

TRIESTE DX CONTEST

Starts 0000 GMT Saturday, March 11, and ends 2400 GMT Sunday, March 12. This contest is between 13 stations and the rest of the world. Contest is for single operator stations and SWLs only. All bands 10 to 80, both phone and CW, are permitted. Exchange only a signal report, 13 stations will also give 2 letters identifying their province. For scoring, multiply total number of QSOs by the sum of different provinces worked on each band. The same station may be worked on each band for QSO and multiplier credit. SWLs must report the call of the 13 stations as well as the station being worked, scoring same as transmitting stations.

Awards — Certificates to all participants, and a plaque representing the 14th century seal of Trieste City to the top scoring station in each DXCC country.

Send logs by May 31 to Trieste DX Radio Club, PO Box 1342, 34110, Trieste, Italy. (Award winners are expected to cover mailing charges, 10 IRCs.)

CQ WW WPX SSB CONTEST

Starts 0000 GMT Saturday, March 25, ends 2400 GMT Sunday, March 26. The rules are the same as for last year. Briefly the rules are as follows: Contacts between stations on different continents count 3 points on 14, 21 and 28 MHz, and 6 points on 7, 3.5 and 1.8 MHz. On the same continent but not the same country, 1 point on 14, 21 and 28 MHz, and 2 points on 7, 3.5 and 1.8 MHz. Contacts are permitted between stations in the same country for the purpose of obtaining a prefix multiplier, but have no QSO point value.

The multiplier is determined by the number of different prefixes worked. Each prefix may be counted once only, NOT once per band.

Exchange RS report plus a serial number starting at 001. Single operator stations may use only 30 of the 48 hours available. The 18 hours of non-operating may be taken in up to 5 periods. To be eligible for awards, a minimum of 12 hours operating must be shown. There is no limit for multi -operator stations, but 24 hours are needed for award eligibility.

Send logs by May 10 to CQ WPX SSB Contest Committee, 14 Vanderventer Ave., Port Washington, N.Y. 11050 U.S.A.

RD CONTEST AND ETC.

I am still recovering from going through all the logs for the last contest. My apologies for the

lateness of the results — it occurred due to many things, not the least of which was a much more thorough check on duplicate contacts and scoring than is usual. I wonder how many people have noticed that the results published do not necessarily agree with the logs submitted. There are many comments yet to be read, and some of them may appear in a later issue. Many wrote that they enjoyed it, and the record number of entries supports this comment.

Next month should have the Ross Hull results out, and also some certificates out to those who are waiting patiently for them.

Till next month, 73. ■

HAMADS

- Eight lines free to all WIA members. $9 per 3 cm for non-members.
- Copy in typescript please or in block letters to P.O. Box 150, Toorak, Vic. 3142.
- Commercial advertising is excluded. Repeats may be charged at full rates.
- Closing date: 1st day of the month preceding publication. Cancellations received after about 12th of the month cannot be processed.
- QTHR means the advertiser's name and address are correct in the current WIA Radio Amateurs Call Book.

FOR SALE

Ken KP202 Transceiver, charger and manual, $140; Snooker Table, complete (3 cues), $140; both new condition. VK3BAV, QTHR. Ph. (03) 598 8665.

Hy-Gain TH6DXX Beam, $215; 2m 11 el Yagi, $25; Mldy IV.N 40-10m trap dipole, $45. VK3CH, QTHR. Ph. (03) 560 5150.

Transmitter SSB H/B 80-40-20m enclosed 6 ft. steel cabinet, final PR 4X150B 200W O/P, $90. VK3BDY, QTHR. Ph. (03) 338 2105.

FL2100B, new, unused in box, warranty current, $550 firm; Marconi UHF Wavemeter TF643B, 20-300 MHz, 4 plug in ranges, sensitive and accurate, $25; Partly complete 2m linear 4/125A tuned lines, 3 ft. table rack, 2000V DC supply, regulated screen supply, 2 hrs would complete, $100; AWA A510 2-10 MHz QRPP wireless unit with hand generator and all connecting cables, spare Tx, $50; Admiralty Morse Key No. 7681, $5 new; 52 MHz FM(?) C42 37-60 MHz with all cables and power units, $50; 3 Scalar 5/8 whips and bases, new, in plastic, $25 lot; Fuji 23 Ch. AM CB, suit noivce, $25. VK3OT, QTHR. Ph. (055) 72 3166 day.

Yaesu FT221 all mode transceiver, will exchange for small mobile HF rig, Yaesu FT75B plus DC, PSU, Swan, etc. or sell. VK4PM, QTHR. Ph. (074) 62 1021.

Hustler 4 BTV trap vertical antenna, had very little use, $115 ONO, Inc. 80m resonator. Ph. (053) 31 1138.

FT75B with mobile power supply, 2 months old, $415 ONO. VK2ZKF/NGQ, QTHR. Ph. (049) 51 4024 AH.

Portable 6-band, short wave Rx (Sanyo), SW 2 MHz to 28 MHz, 4 bands, MW 510 to 1600 kHz, FM 87 to 108 MHz, only 6 months old, still brand new, has telescopic aerial, optional AC or DC and many other features. Sold with AC power cord. Price $45. John Brereton, 27 Kent Ave., Brahma Lodge 5109, S.A.

Lafayette HA-600A Rx, excellent condition, $150 ONO, Trapider GDO with all coils, $45, RAK 2m 5/8 ant. with magnetic base, $15, unused. VK3BCN. Ph. (03) 347 9415.

Oscilloscope Roband, five inch crt. DC to 30 MHz, in working condition, 22 cm high, 43 cm wide, 58 cm depth, 14 kg weight, $200. VK2ZOF. Ph. (02) 344 5571 after 5 p.m. weekdays.

House Block, 28.8 pers., situated on top of rise at Calliope, approx. 10 miles SE Gladstone, Qld. Water and power past block. Calliope has an easy lifestyle which would suit anyone trying to get away from it all. Situated within easy access to main highways, ideal site for a Dx location. The nearby area is booming industrially and this land would be a good investment. Good fishing and boating areas close at hand. $5,700.00 ONO. Enquiries VK4NAX, 23 Drummer St., Toolooa Estate, Gladstone, Qld. 4680.

Rextone PB Car Radio (AM only), 12V neg. $40.00, exc. cond., "Power" portable AM, FM, SW receiver, covers BC, Marine, VHF air and PS bands, FM BC, $40. Graeme Scott VK3ZR, QTHR. Ph. (03) 89 4645.

Drake R4B Rx, good condition, less than half new price, $300; Yaesu FT200 transceiver with power supply and spare valves, handbook and original packing, $350. VK5AS, QTHR. Ph. (086) 82 2899 bus.

RTTY equipment (Creed), 6S/5M auto-transmitter, 7P/N4 perforator, both units in excellent condition. Supplied with 20 rolls of tape and complete documentation, $100. VK5JE, QTHR.

FTDX100, good cond., full wkg. order, all cables and h'book, $450, ONO. VK3YQ, QTHR. Ph. (03) 859 3604.

SSTV Slow Scan Monitor, similar to Robot 70A, $220. Stan VK3BHZ, QTHR. Ph. (03) 870 5132 or (060) 71 7244.

Collins S-Line Equipment 32S-1, 516F-2, 312B-4, 30L-1, fitted with 4 x 872B tubes. Includes spare tubes for exciter with 4 x 6-46s, 5R4GY and 5U4G rectifiers. Well maintained by one owner since new, cables and instruction manuals included. Package deal $1,000, cash and carry. VK6RU, QTHR. Ph. (09) 385 9664.

Yaesu FT200 Transceiver with FP200 power supply, mint condition, plus 14AVQ vertical antenna, $450. VK2RL, QTHR. Ph. (02) 908 2982 A.H.

Yaesu FRG7 Rx, $190; Tandy SX190 Rx, $120; Katsumi dual paddle keyer, $120; AWA AC/DC PSU 15 amps, $40; RTTY demodulator/encoder, tube type, with CRO tuning, $40; model 15 RTTY printer, recently overhauled, $50. VK3NCY, Box 322, Mentone 3194. Ph. (03) 90 2620.

Antenna Rotator, HAM-II, complete with 60 ft. of multi-conductor cable to suit, unused, new cond., $200. VK5KI, QTHR. Ph. (08) 264 1902.

Co-ax. Cable RG8, ½ in. dia., 3 lengths, 1 x 30 ft., 1 x 51 ft., 1 x 53 ft. Swap for pair 6J6A tubes or what have you. VK3VR, QTHR. Ph. (03) 787 1715.

Dream QTH. Vacant building block approx. 50 ft. x 150 ft., loc. Blaxland Blue Mts., N.S.W. Level block with massive 80 ft. self-supporting telegraph pole on it with additional 20 ft. rotating steel section to carry antennas. Price $9,500. Large monoband Yagis for 10, 15 and 20 m also available. VK2WX. Ph. (02) 524 8631 or (03) 26 2711.

Tower, 60 ft. high, triangular shape, self-supporting. See erected, $100. VK3ATQ, QTHR. Ph. (03) 707 2110 A H.

Antenna, TH3 Junior Yagi, $180; 432 MHz 44 el. Yagi, $35; 10-15 duo band Yagi, $100; transverter, 144-432 MHz, $199; converter, 144/28 MHz IF, $35; TS 600 6 m transceiver, as new, $625; Collins "S" line, absolute mint cond., 75S3C, 32S3A, 30L1, 516/F2 PS. Ph. (03) 24 1232 or (03) 509 8637.

Yaesu FT2FB 2 m Xcvr, channels 2, 8, 40, $139. VK3ZKE. Ph. (03) 546 4924.

Microwave Modules, 28/144 MHz transverter, unused, cost $185, sell $125, or exchange for 2 m hand held in good order. VK2BVR, QTHR. Ph. (02) 620 1444.

Transformer A and R, 200V, 220V, 230V, 240V primary, 565V, 500V, 425V aside at 250 mA. 2-6.3V 3A, 1-5V 3A, 2-2.5V 3A. Two silicon 1000V half wave rectifiers, $15. VK3VI. Ph. (03) 89 5328.

FTDX401 80-10 metre Transceiver with matching SP400 spkr. unit, mic., etc., $445; QM70 high power 28-144 MHz transverter, $145; Heathkit SB610 monitorscope, $150; Datong RF speech clipper, $65. All above units in as new condition, in original cartons with hand books. New 813 tubes, $20 pair; new Asahi 20m 3 el. beam, $155; 20m mini-beam, $50; 14 AVQ trap vertical antenna, 40-10m, $55; Drake 2B 80-10m receiver with matching spkr./Qxer unit, $175. VK3ARZ, QTHR. Ph. (03) 232 9492.

WANTED

TH3 Junior Beam, Rotator, Mast and Dummy Load. VK3BAV, QTHR. Ph. (03) 598 8665.

FT200 or FT75B or similar. Jim Upton. Ph. (062) 48 9902.

Mast 30-40 feet, self supporting preferred, also Rotator Ham II or similar. Wes VK6NAH, QTHR. Ph. (09) 446 3008.

SILENT KEYS

It is with deep regret that we record the passing of —

Mr. B. J. SORLEY — **VK6RO**
Mr. A. F. ASHBY — **VK2TA**
Mr. A. EDWARDS — **G6XJ/VK3AMM**

DUDLEY McDONALD — **VK4MY**

Dudley McDonald VK4MY passed away 12-12-1977. He held the call VK3DM from the early thirties until the middle of 1964 when he moved to Palm Beach, Queensland.

Dudley was a keen CW operator who was trying to work 5 band DXCC, I think he was well on the way to obtaining this hard-to-get certificate.

I first met him in December 1945, when I joined the staff at 3LO/3AR Sydenham, an easy-going type of chap whom I am sure will be sadly missed. To his wife Blanche, all his many friends extend their deepest sympathy.

de P. J. Anderson VK3PA

M. FRANK ASHBY — **VK2TA**

Albert Francis (Frank) Ashby VK2TA, who died suddenly at home on 13th December 1977, was first licensed in G-land as G3GXC in 1949. His interest in radio, however, dated back to 1912 when, as a boy at school, he was first allowed to turn a Wimshurst Machine.

On arrival in Australia in December 1950, Frank lost no time in applying for a VK call sign, and was licensed as VK2APA with a QTH at Palm Beach in 1951. He later switched to the two letter call sign of VK2TA and his QTH was at Oatley for the past 14 years. Frank was a man of varied interests, including motor racing in pre-war England, sailing, photography and shooting. In spite of heart trouble and a cardiac pacemaker implant, he managed to remain active right up until his death at the age of 79.

He will be sadly missed by his wife and many friends.

VK2AJ

S.A. Journal, April 1976, buy or borrow for copying. VK3AFW, QTHR.

Hallicrafters Receiver, Model 62-A, preferably in working order. Also anyone with knowledge of, or has for disposal a B-40 Rx, as manufactured by Murphy Radio, please contact H. Charles, at 49 Spencer Street, Burnie, Tas. 7320.

Yaesu FT200 with power supply or FT101 or similar, price to be negotiated. Contact Chris VK6ZBT, QTHR.

Beg, borrow or steal but preferably loan of computations for 5x20' "Antiference" triangular tower, good vintage, approx. 1960. VK3AH, QTHR.

IC22 or IC22A or similar, must be good condition, enquiries Graeme Scott VK3ZR, QTHR. Ph. (03) 89 4645.

TV Antenna, price and particulars to L20432, QTHR. Ph. (02) 398 2539.

FT101 or similar Txcvr, good unit required up to $450. Trevor Pitman. Ph. (03) 550 4203, 71 Church St., Beaumaris, Vic.

Bug. VK3VI. Ph. (03) 89 5328.

Uniden Transceiver, 80-10 m, Mk. I or Mk. II, in good working order, complete with service manual and box if possible. Details and price to VK2LX, QTHR Ph. (043) 92 2390.

H/book and Maintenance Manuals for Collins TRC75 radio set. Will pay $30. G. Edwards VK2ATW, QTHR. Ph. (068) 47 2061.

Signal Generator variable, 3 MHz to 30 MHz Marconi model TF 995B, or similar. Jim Bland VK1JB. Ph. (062) 81 2824 Bus., (062) 88 2803 A.H.

Setting up shack on limited budget Any spare gear? Prime need is transceiver HF SSB, older type, e.g., Swan 350, FT101, etc.). Fred (VK2YAL (full soon)) VK2NDD, QTHR. Ph. (02) 76 9500.

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FP-301: Power supply for FT301/S units. 13.5 volts at 20A. Includes speaker.
Cat D-2872 .. .. $175.00

FT301S: 'Short' version of FT301. 20W, less a few features of the full FT301. But look at the saving!
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